

GENERAL NOTES

1. ALL ELEVATIONS SHOWN ARE BASED ON (NGVD 88 DATUM).
2. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

KANSAS ONE CALL 1-800-344-7233

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

GAS: KANSAS GAS SERVICE 1-800-794-4780  
 ELECTRIC: WESTAR ENERGY 1-800-383-1183  
 WATER/SEWER: CITY OF WICHITA 1-316-268-4422  
 TELEPHONE/CABLE/INTERNET: ATT 1-888-288-2020

THE CONTRACTOR SHALL NOTIFY PIPELINE COMPANIES AT LEAST 24 HOURS IN ADVANCE OF ANY WORK BEING PERFORMED ACROSS AND/OR ADJACENT TO PIPELINES.

3. THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, ENTRANCES AND BANK LINES TO THEIR ORIGINAL SLOPES AND GRADES EXCEPT AS SHOWN OTHERWISE. ALL AREAS DISTURBED BY CONSTRUCTION INCLUDING STAGING AREAS, SHALL BE REPLANTED WITH GRASS SEED AT THE APPROPRIATE RATES APPROVED BY THE ENGINEER.

4. THE CONTRACTOR SHALL MAINTAIN TRAFFIC USING BARRICADES AND FLAGPERSONS WHILE WORKING WITHIN STREET RIGHT-OF-WAY. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA SHALL NOT BE CARRIED THROUGH CONSTRUCTION. LOCAL RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA SHALL BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS. THE CONTRACTOR SHALL ERECT WARNING SIGNS, FLASHING LIGHTS, AND BARRICADES IN COMPLIANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES TO ENSURE SAFETY AS DIRECTED IN THE GENERAL CONDITIONS. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.

5. UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. IT SHOULD BE NOTED THAT OTHER BURIED LINES AND CABLE MAY EXIST WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING TRENCHING OPERATIONS TO AVOID DAMAGING THESE LINES AND CABLES. ANY UTILITIES DAMAGED SHALL BE REPLACED OR REPAIRED IMMEDIATELY AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PROTECT FROM DAMAGE AND SUPPORT EXISTING UTILITIES THROUGH CONSTRUCTION AS APPROVED BY THE UTILITY OWNER AND THE ENGINEER AT THE CONTRACTOR'S EXPENSE. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

6. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS, THAT IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOODPLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

7. PROPERTIES WITHIN THE PROJECT LIMITS MAY HAVE UNDERGROUND SPRINKLER SYSTEMS IN THE PUBLIC RIGHT-OF-WAY WHICH CONFLICT WITH NEW CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REMOVE SUCH IMPROVEMENTS SHOULD THEY NOT BE REMOVED BY THEIR OWNER AT THE TIME OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SALVAGE ALL SPRINKLER HEADS AND/OR VALVES AND GIVE SUCH MATERIAL TO THEIR OWNER. PORTIONS OF UNDERGROUND SPRINKLER SYSTEMS NOT IN CONFLICT WITH NEW CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND SHALL REMAIN IN PLACE. ALL WORK IN CONNECTION WITH UNDERGROUND SPRINKLER SYSTEMS SHALL BE CONSIDERED AS SUBSIDIARY TO THE CONTRACT PAY ITEMS OF WORK.

8. THE CONTRACTOR MUST EXAMINE THE CONSTRUCTION SITE PRIOR TO BIDDING AND BE SATISFIED AS TO THE WORK SHOWN FOR COMPLETION. AFTER BIDS HAVE BEEN RECEIVED, THE CONTRACTOR SHALL NOT ASSERT THAT THERE WAS A MISUNDERSTANDING OF THE QUANTITIES OF WORK OR OF THE NATURE FOR THE WORK TO BE COMPLETED.

9. THE CONTRACTOR SHALL NOTIFY THE INSPECTOR FOR THIS PROJECT 48 HOURS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR ASSIGNED TO THE PROJECT IS PRESENT ON SITE. ANY WORK DONE WITHOUT INSPECTION WILL BE REQUIRED TO BE UNCOVERED FOR INSPECTION.

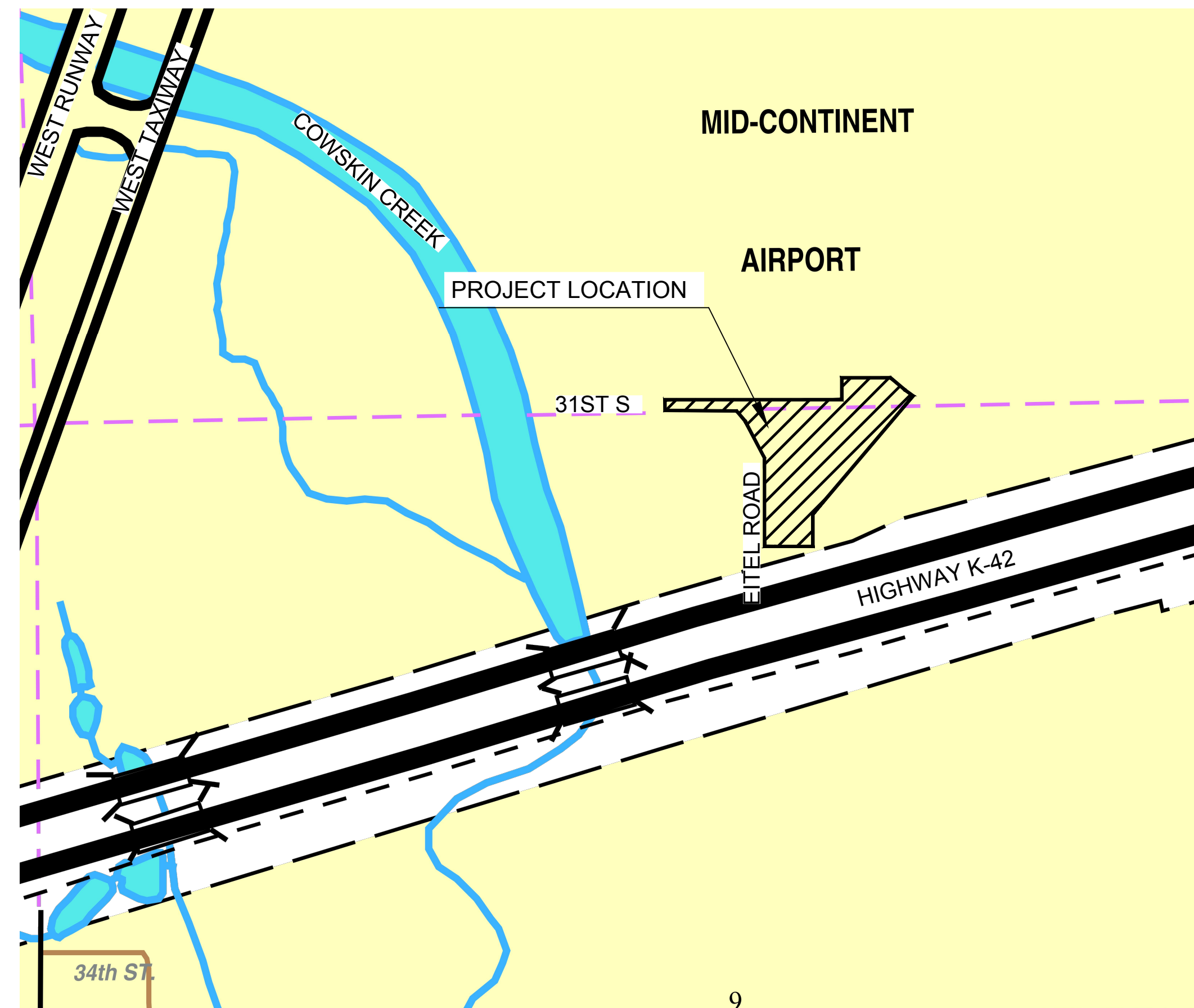
10. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO REESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS SUCH IRONS SHALL BE REESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.

12. SEEDING AND FERTILIZING OF ALL AREAS DISTURBED BY THE CONSTRUCTION OF THE SANITARY SEWER AS SHOWN ON THE PLANS SHALL BE PAID FOR AS A LUMP SUM FOR "EROSION CONTROL BMP'S".

# PROPOSED DRAINAGE IMPROVEMENTS TO SERVE WICHITA MID-CONTINENT AIRPORT SOUTH MAINTENANCE FACILITY

WICHITA, SEDGWICK COUNTY, KANSAS  
0166 PPD (O.C.A. NO. 607861)  
APRIL 2014

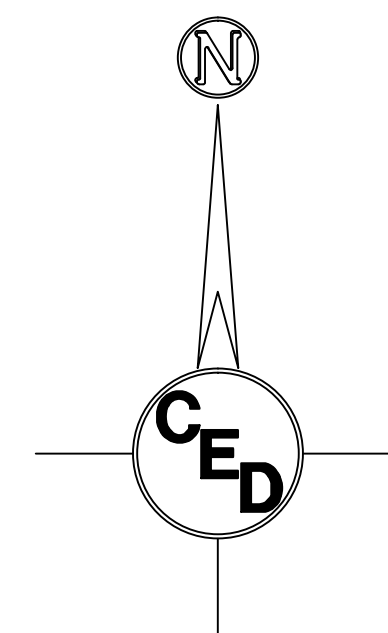


PROJECT LOCATED IN  
NE 1/4, SEC. 9, T.28S., R.1.W.  
SEDGWICK COUNTY, KANSAS

PROJECT NARRATIVE:

The site is located at 7710 Southwest Boulevard in Wichita, KS. The total disturbed area for this project is 7.30 acres. This project is a redevelopment project, and the existing site is covered with impervious building and parking surfaces with native grass cover. The site is within the drainage basin of the Cowskin Creek which ultimately drains to the Arkansas River. Proposed improvements include paving, drainage, electrical, and building construction. A proposed Hydrodynamic Separator will treat the runoff from the site. Detention and channel protection are not required for this site.

Sheet List Table	
Sheet Number	Sheet Title
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12	CROSS ROAD PIPE 1
13	DITCH GRADING 1
14	DITCH GRADING & CROSS ROAD PIPE 2
15	CROSS ROAD PIPE 3
16	SWS LINE NO. 1 PLAN & PROFILE
17	SWS LINE NO. 1 PLAN & PROFILE
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19	SWS LINE NO. 2 PLAN & PROFILE
20	SWS LINE NO. 3 PLAN & PROFILE
21	SWS LINE NO. 4 & 5 PLAN & PROFILE
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23	SINGLE-DOUBLE DROP INLET
24	DOUBLE-DOUBLE DROP INLET
25	RCP END SECTION DETAILS
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28	EROSION CONTROL PLAN-PH 1
29	EROSION CONTROL PLAN-PH 2
30	SOIL EROSION BMP DETAIL 1
31	SOIL EROSION BMP DETAIL 2
32	SOIL EROSION BMP DETAIL 3
33	SOIL EROSION BMP DETAIL 4
34	HYDRODYNAMIC SEPARATOR DETAIL



APPROVED AS NOTED  
By CITY ENGINEER OF WICHITA

Sanitary Sewers \_\_\_\_\_  
 Storm Sewers \_\_\_\_\_  
 by City Engineer *Juliana Kallman 5-6-13*  
 by Storm Water Engineer *Jim Houtley 5-16-13*  
 Driveway Approaches \_\_\_\_\_  
 Water Mains \_\_\_\_\_  
 Paving \_\_\_\_\_

NOTE TO CONTRACTOR

INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM UNDER CONTRACT WITH THE OWNER/DEVELOPER. SAID INSPECTION TO BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD CONSTRUCTION ENGINEERING PRACTICES AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR THE PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER.

REDEVELOPMENT PROJECT:

Disturbed Area = 7.30 acres  
 Developed Impervious Area = 5.01 acres (within project property area)  
 Existing Impervious Area = 4.29 acres (within project property area)  
 Detention = N/A (less than 1 acre of new impervious surface)  
 Water Quality Peak Flow Rate = 2.19 cfs (calculated treatment for redevelopment)  
 Water Quality Peak Flow Rate = 4.89 cfs (actual treatment)  
 CPv = N/A (less than 5 acres of new impervious surface)

Water Quality Achieved by: HG6 Hydrodynamic Separator manufactured by Hydroworks, LLC



Control Point & Benchmark #1 1/2" x 24" Rebar with Savoy Plastic Cap Elevation = 1312.41(NAVD88) N. 1667220.8103 E. 1620744.7579	Control Point & Benchmark #3 1/2" x 24" Rebar with Savoy Plastic Cap Elevation = 1317.64(NAVD88) N. 1667395.1610 E. 1621852.3090
Control Point & Benchmark #2 1/2" x 24" Rebar with Savoy Plastic Cap Elevation = 1315.01(NAVD88) N. 1667394.2630 E. 1620911.7240	Control Point & Benchmark #4 1/2" x 24" Rebar with Savoy Plastic Cap Elevation = 1317.11(NAVD88) N. 1667152.9810 E. 1621707.4130

REV.	DESCRIPTION	DATE

AS BUILT PLANS:  
CONTRACTOR: WILDCAT CONSTRUCTION  
INSPECTOR: RANDY VOTH, C.E.D.  
PDF BY: C.C. 3-18-2015

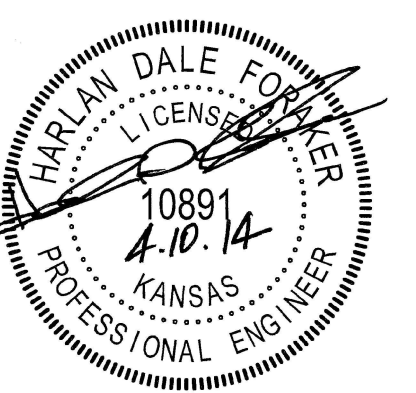
SOUTH MAINTENANCE  
YARD IMPROVEMENTS  
& PARKING LOT  
RECONSTRUCTION

WICHITA  
MID-CONTINENT  
AIRPORT  
SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669

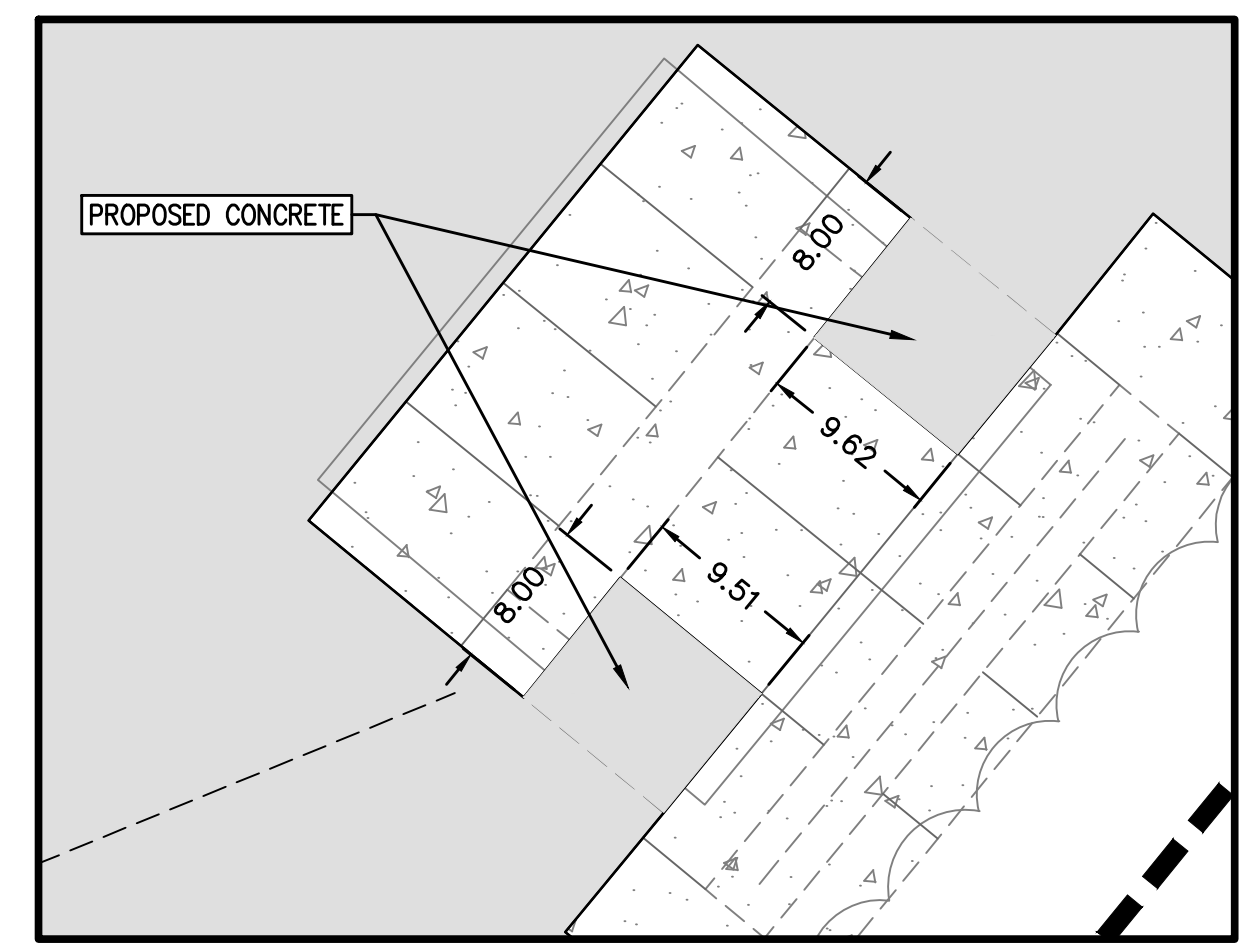
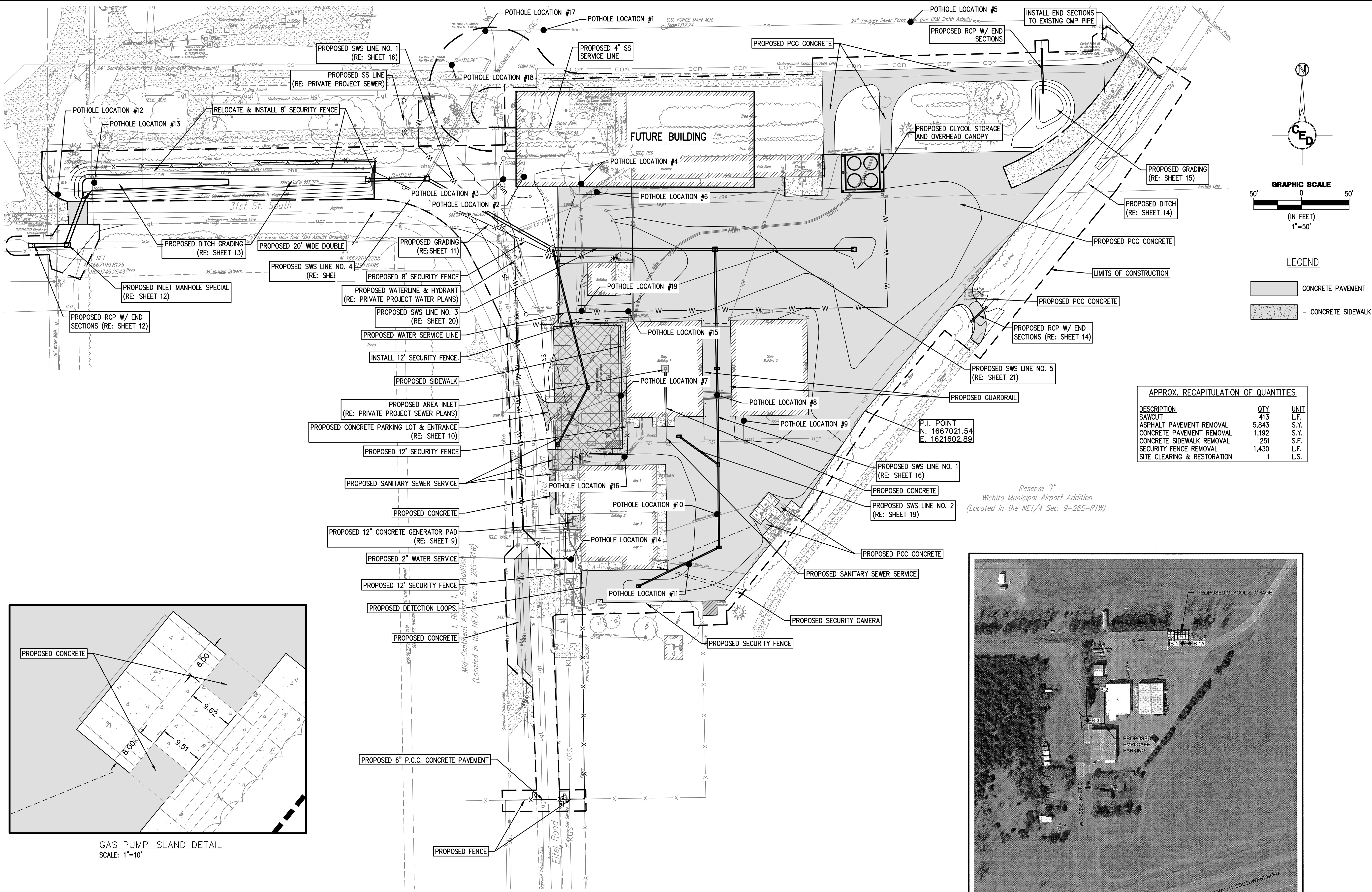


BID DRAWINGS

PROJECT NO.: 20122036  
ISSUE DATE: APRIL 2014  
CONTACT: H FORAKER  
DRAWN BY: CC, CKW | CHECKED BY: HDF

PPD COVER SHEET

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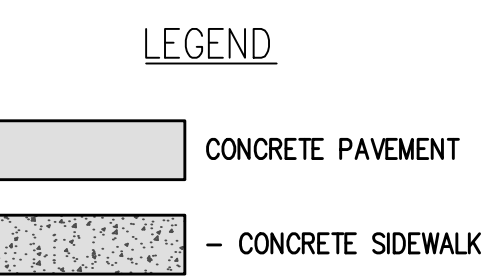
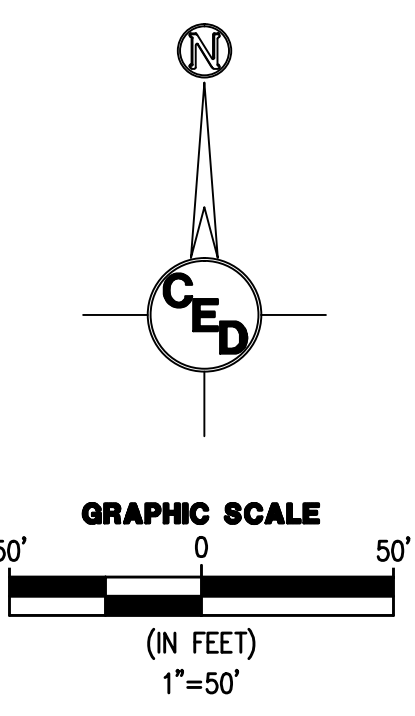


GAS PUMP ISLAND DETAIL  
SCALE: 1"=10'

SITE PLAN  
SCALE: 1"=50'

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APPROX. RECAPITULATION OF QUANTITIES

DESCRIPTION	QTY	UNIT
SAWCUT	413	L.F.
ASPHALT PAVEMENT REMOVAL	5,843	S.Y.
CONCRETE PAVEMENT REMOVAL	1,192	S.Y.
CONCRETE SIDEWALK REMOVAL	251	S.F.
SECURITY FENCE REMOVAL	1,430	L.F.
SITE CLEARING & RESTORATION	1	L.S.



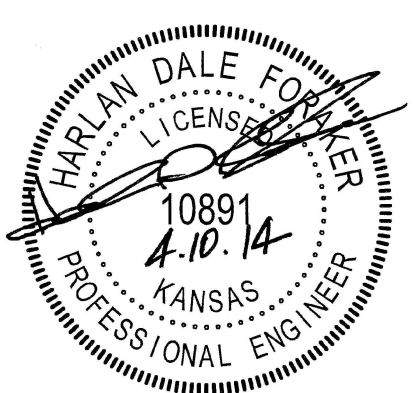
**SOUTH MAINTENANCE  
YARD IMPROVEMENTS  
& PARKING LOT  
RECONSTRUCTION**

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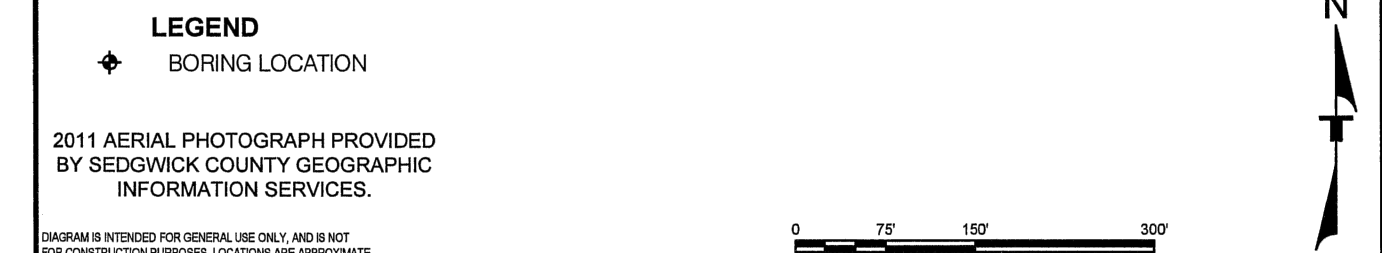
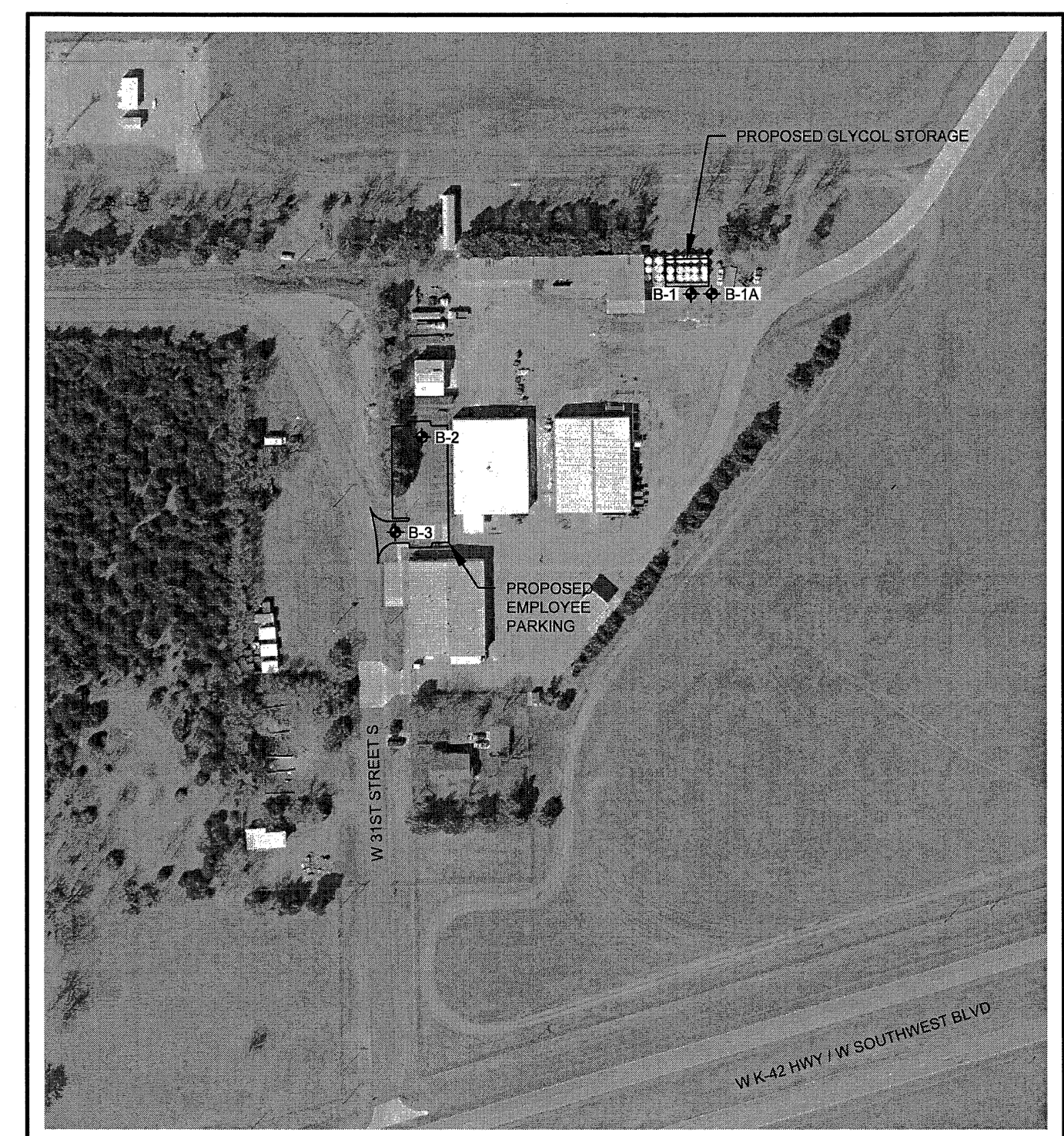
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DRAWN BY: CC, CKW | CHECKED BY: HDF

**SITE PLAN**



2011 AERIAL PHOTOGRAPH PROVIDED BY SEDGWICK COUNTY GEOGRAPHIC INFORMATION SERVICES.

DIAGRAM IS INTENDED FOR GENERAL USE ONLY, AND IS NOT FOR CONSTRUCTION PURPOSES. LOCATIONS ARE APPROXIMATE.

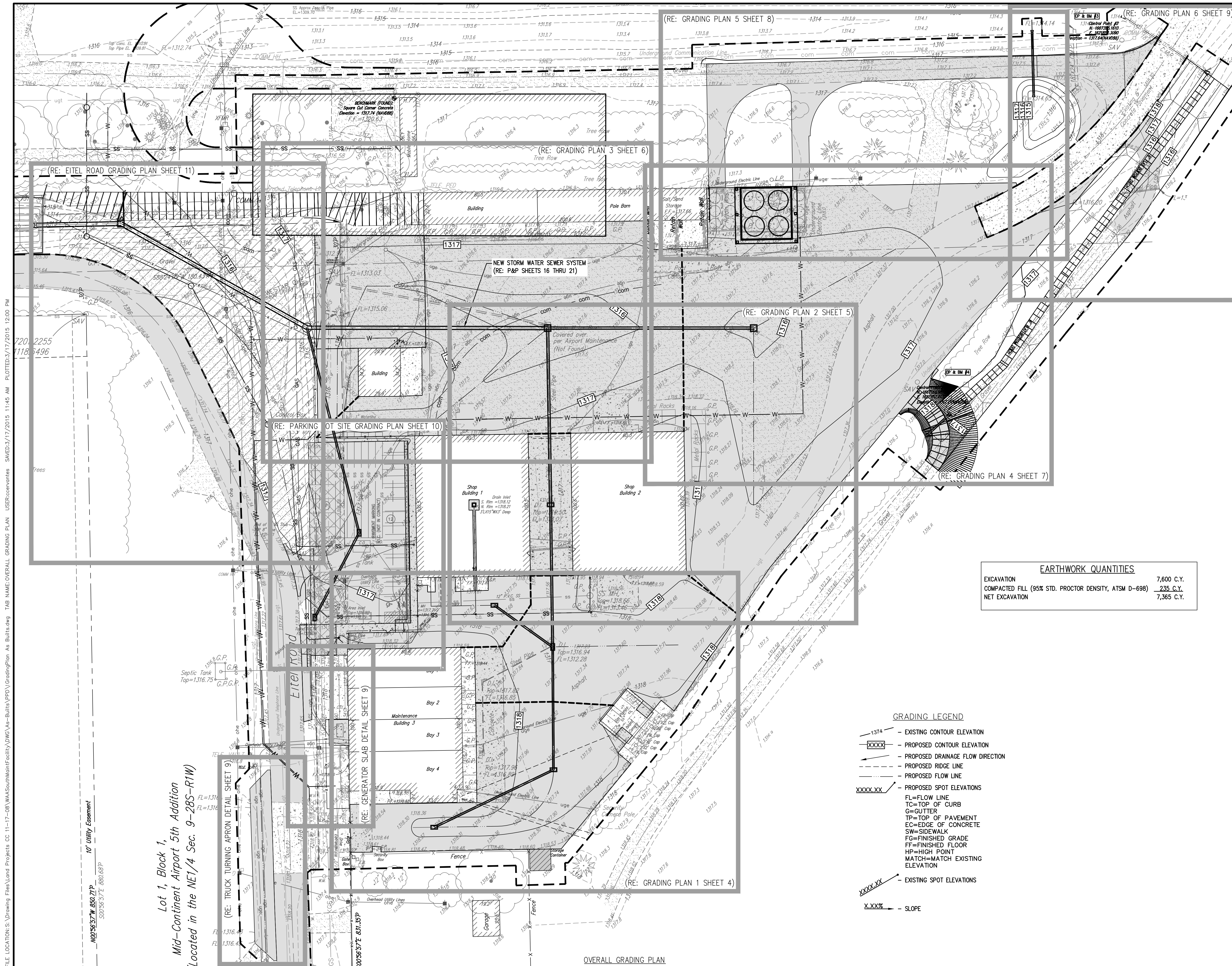
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Checked By:	BJM	Drawn By:	7/25/13
Approved By:	MCE	Project No.:	01129124
Client:	CCD	File Name:	3/24/14.dwg

**Terracon**  
Consulting Engineers and Scientists  
100 South Broadway, Suite 2000, Wichita, Kansas 67202  
Phone: (316) 262-8800 Fax: (316) 262-1669

BORING LOCATION PLAN  
CLIENT: CERTIFIED ENGINEERING DESIGN  
SOUTH MAINTENANCE YARD  
NE OF W SOUTHWEST BLVD AND W 31ST STREET S  
WICHITA, KANSAS 67215

EXHIBIT  
A-2

SOIL BORING LOCATION MAP



FILE LOCATION: S:\Drawing Files\Land Projects\CC 11-17-08\WASouthMainFacility\DWG\As-Built\Grading\As-Built.dwg  
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 10' Utility Easement  
 10206577W 650.71P  
 50056577E 680.68P  
 20056577E 651.35P

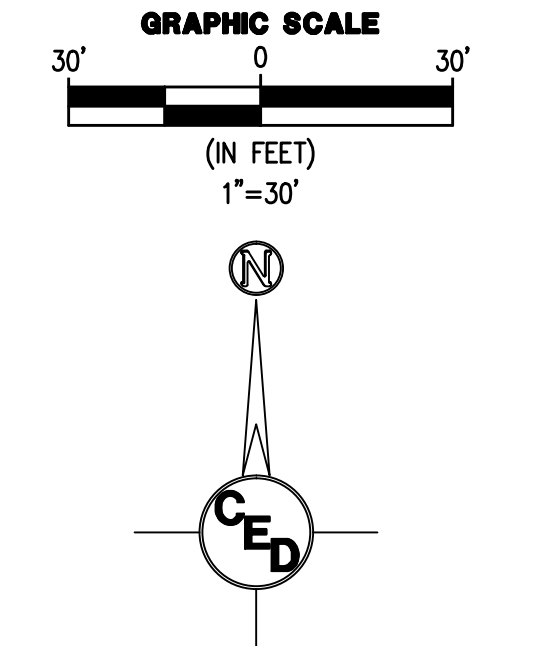
Lot 1, Block 1,  
 Mid-Continent Airport 5th Addition  
 Located in the NE 1/4 Sec. 9-28S-R1W

EARTHWORK QUANTITIES	
EXCAVATION	7,600 C.Y.
COMPACTED FILL (95% STD. PROCTOR DENSITY, ATSM D-698)	235 C.Y.
NET EXCAVATION	7,365 C.Y.

- GRADING LEGEND**
- 1374 - EXISTING CONTOUR ELEVATION
  - XXXX - PROPOSED CONTOUR ELEVATION
  - - - - - PROPOSED DRAINAGE FLOW DIRECTION
  - - - - - PROPOSED RIDGE LINE
  - - - - - PROPOSED FLOW LINE
  - XXXX.XX - PROPOSED SPOT ELEVATIONS
  - XXXX.XX - EXISTING SPOT ELEVATIONS
  - X.XXX - SLOPE
- FL=FLOW LINE  
 TC=TOP OF CURB  
 G=GUTTER  
 TP=TOP OF PAVEMENT  
 EC=EDGE OF CONCRETE  
 SW=SIDEWALK  
 FG=FINISHED GRADE  
 FF=FINISHED FLOOR  
 HP=HIGH POINT  
 MATCH=MATCH EXISTING ELEVATION

REV.	DESCRIPTION	DATE

AS BUILT PLANS:  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015



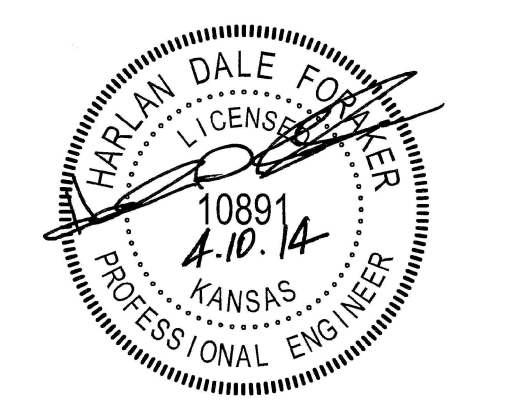
**SOUTH MAINTENANCE  
 YARD IMPROVEMENTS  
 & PARKING LOT  
 RECONSTRUCTION**

WICHITA  
 MID-CONTINENT  
 AIRPORT  
 SEDGWICK COUNTY, KANSAS

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 CIVIL ENGINEERING SERVICES



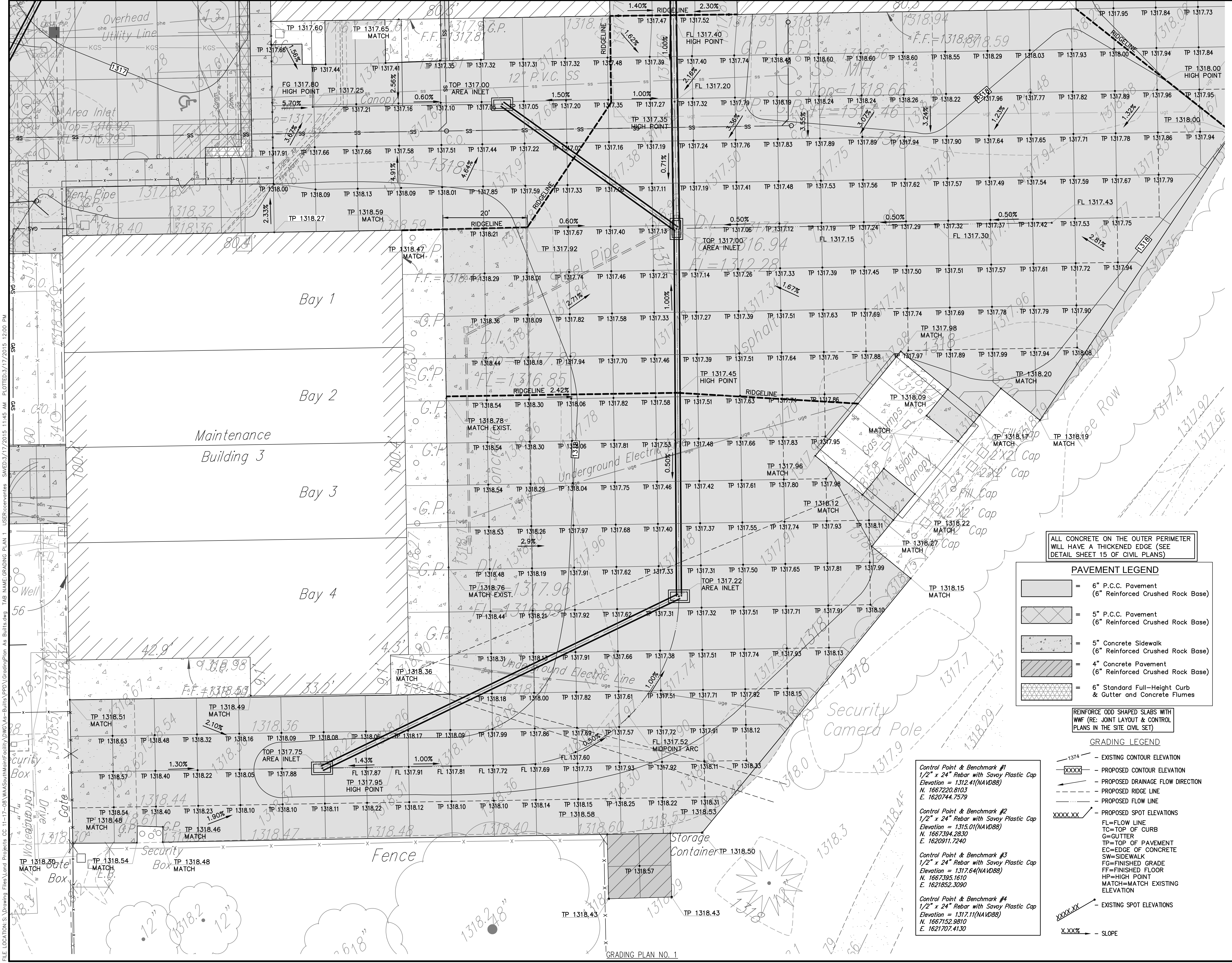
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BID DRAWINGS

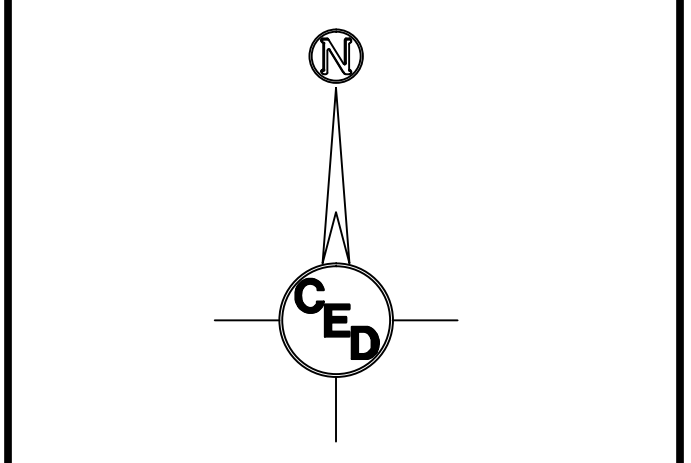
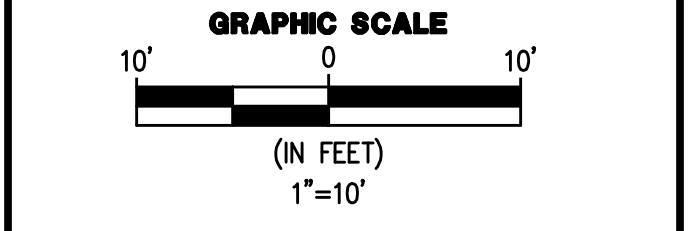
PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, CKW | CHECKED BY: HDF

**OVERALL GRADING  
 PLAN**



REV.	DESCRIPTION	DATE

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 PDF BY: C.C. 3-18-2015



**SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION**

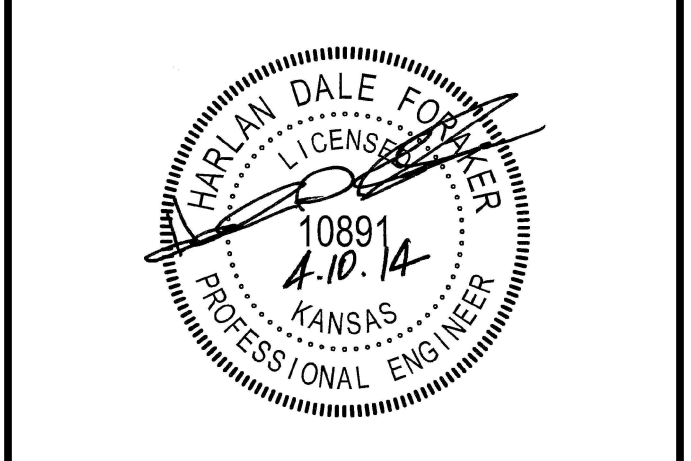
WICHITA MID-CONTINENT AIRPORT

SEDGWICK COUNTY, KANSAS

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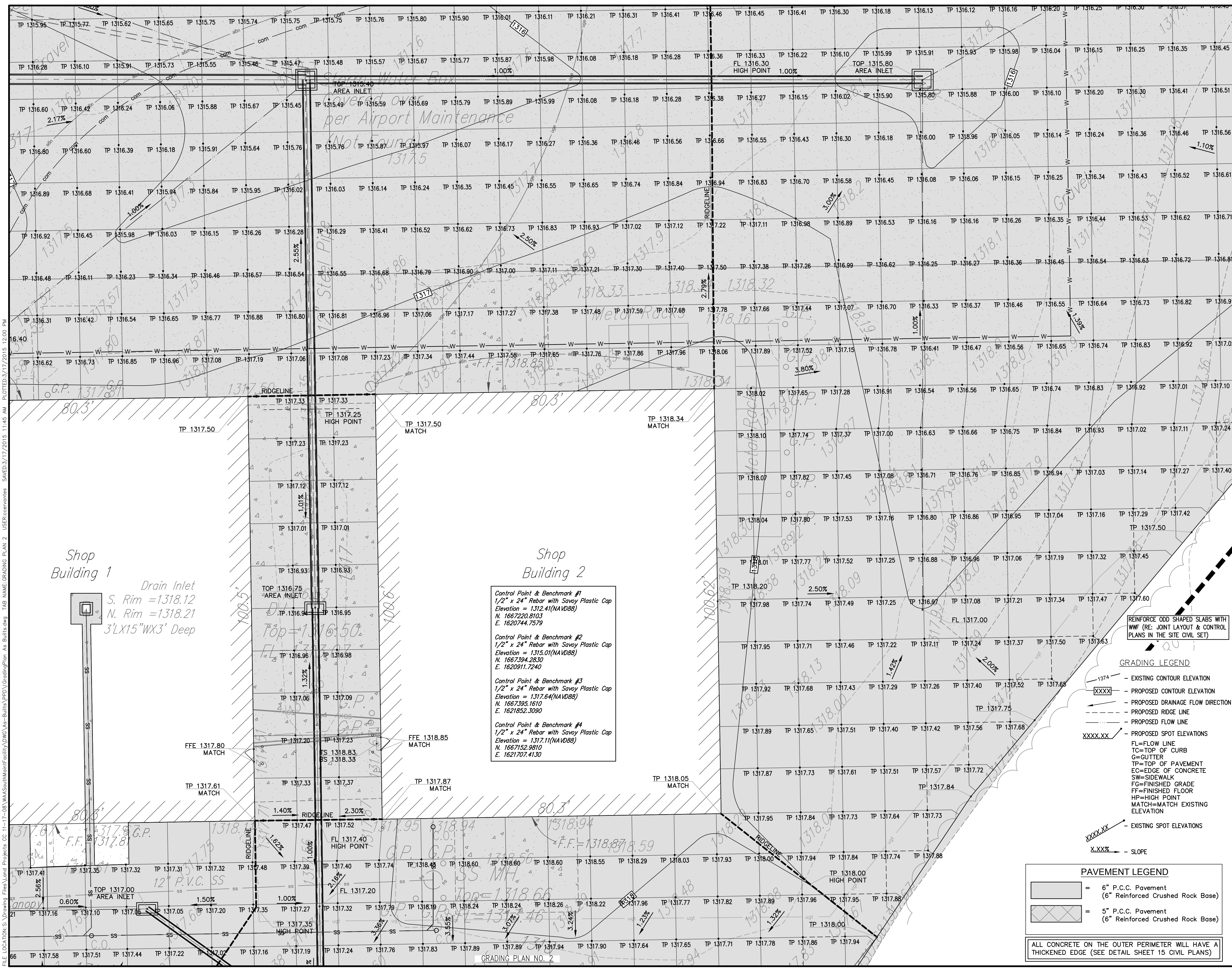


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**GRADING PLAN 1**

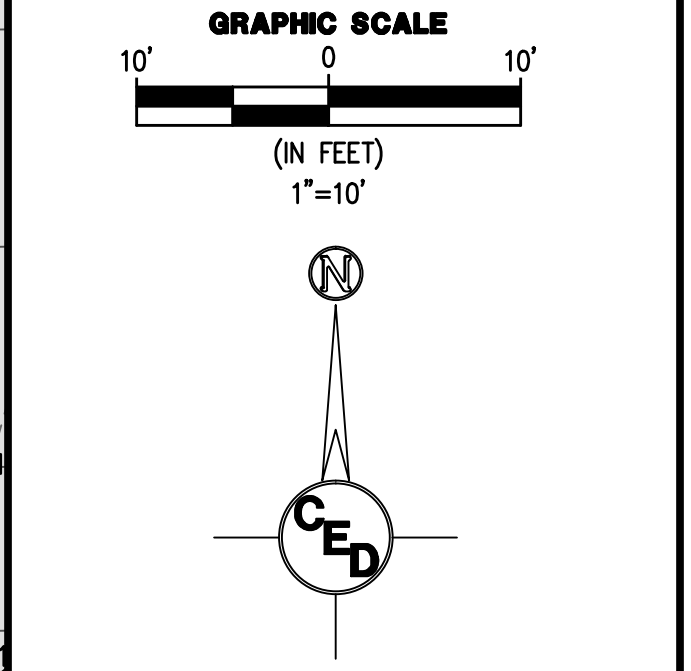
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AS BUILT PLANS:  
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**SOUTH MAINTENANCE  
 YARD IMPROVEMENTS  
 & PARKING LOT  
 RECONSTRUCTION**

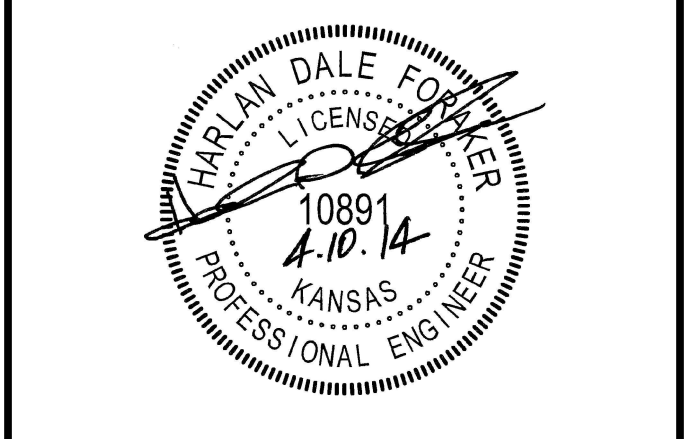
WICHITA  
 MID-CONTINENT  
 AIRPORT

SEDGWICK COUNTY, KANSAS

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**CED**

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 WICHITA, KANSAS 67213  
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BID DRAWINGS

PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, KKW | CHECKED BY: HDF

**Control Point & Benchmark #1**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1312.41 (NAVD88)  
 N. 1667220.8103  
 E. 1620744.7579

**Control Point & Benchmark #2**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1315.01 (NAVD88)  
 N. 1667394.2830  
 E. 1620911.7240

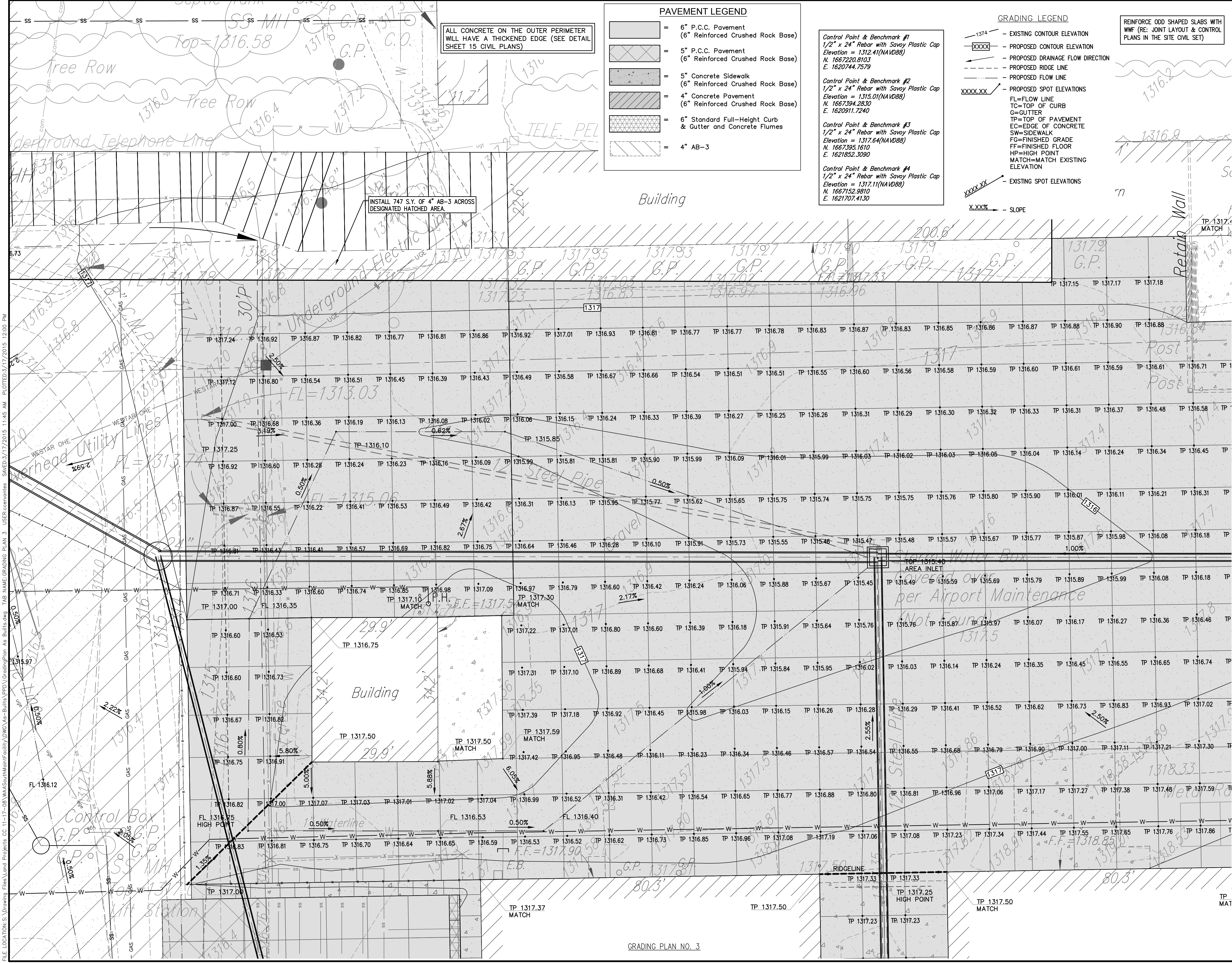
**Control Point & Benchmark #3**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.64 (NAVD88)  
 N. 1667395.1610  
 E. 1621852.3090

**Control Point & Benchmark #4**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.11 (NAVD88)  
 N. 1667152.9810  
 E. 1621707.4130

- GRADING LEGEND**
- - - - - 1374 - EXISTING CONTOUR ELEVATION
  - XXXX - PROPOSED CONTOUR ELEVATION
  - - PROPOSED DRAINAGE FLOW DIRECTION
  - - - - - - - - - - - PROPOSED RIDGE LINE
  - — — — — PROPOSED FLOW LINE
  - XXXX.XX - PROPOSED SPOT ELEVATIONS
  - FL=FLOW LINE
  - TC=TOP OF CURB
  - G=GUTTER
  - TP=TOP OF PAVEMENT
  - EC=EDGE OF CONCRETE
  - SW=SIDEWALK
  - FG=FINISHED GRADE
  - FF=FINISHED FLOOR
  - HP=HIGH POINT
  - MATCH=MATCH EXISTING ELEVATION
  - XXXX.XX - EXISTING SPOT ELEVATIONS
  - X.XX% - SLOPE

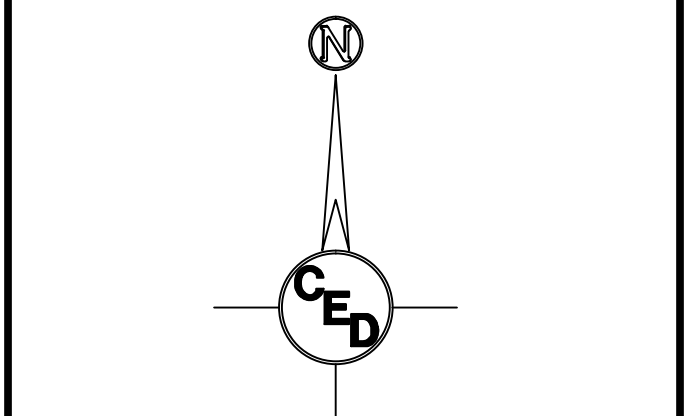
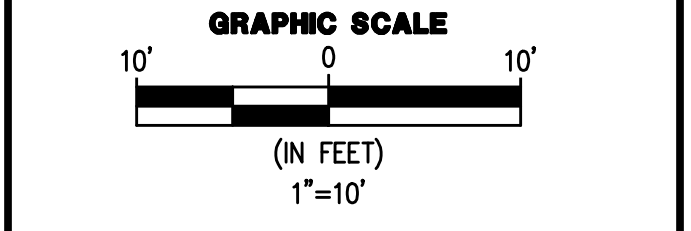
- PAVEMENT LEGEND**
- [Pattern] = 6" P.C.C. Pavement (6" Reinforced Crushed Rock Base)
  - [Pattern] = 5" P.C.C. Pavement (6" Reinforced Crushed Rock Base)

ALL CONCRETE ON THE OUTER PERIMETER WILL HAVE A THICKENED EDGE (SEE DETAIL SHEET 15 CIVIL PLANS)



| REV. | DESCRIPTION | DATE |
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**AS BUILT PLANS:**  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015



**SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION**

**WICHITA MID-CONTINENT AIRPORT**  
 SEDGWICK COUNTY, KANSAS

**CERTIFIED ENGINEERING DESIGN, P.A.**  
 CIVIL ENGINEERING SERVICES



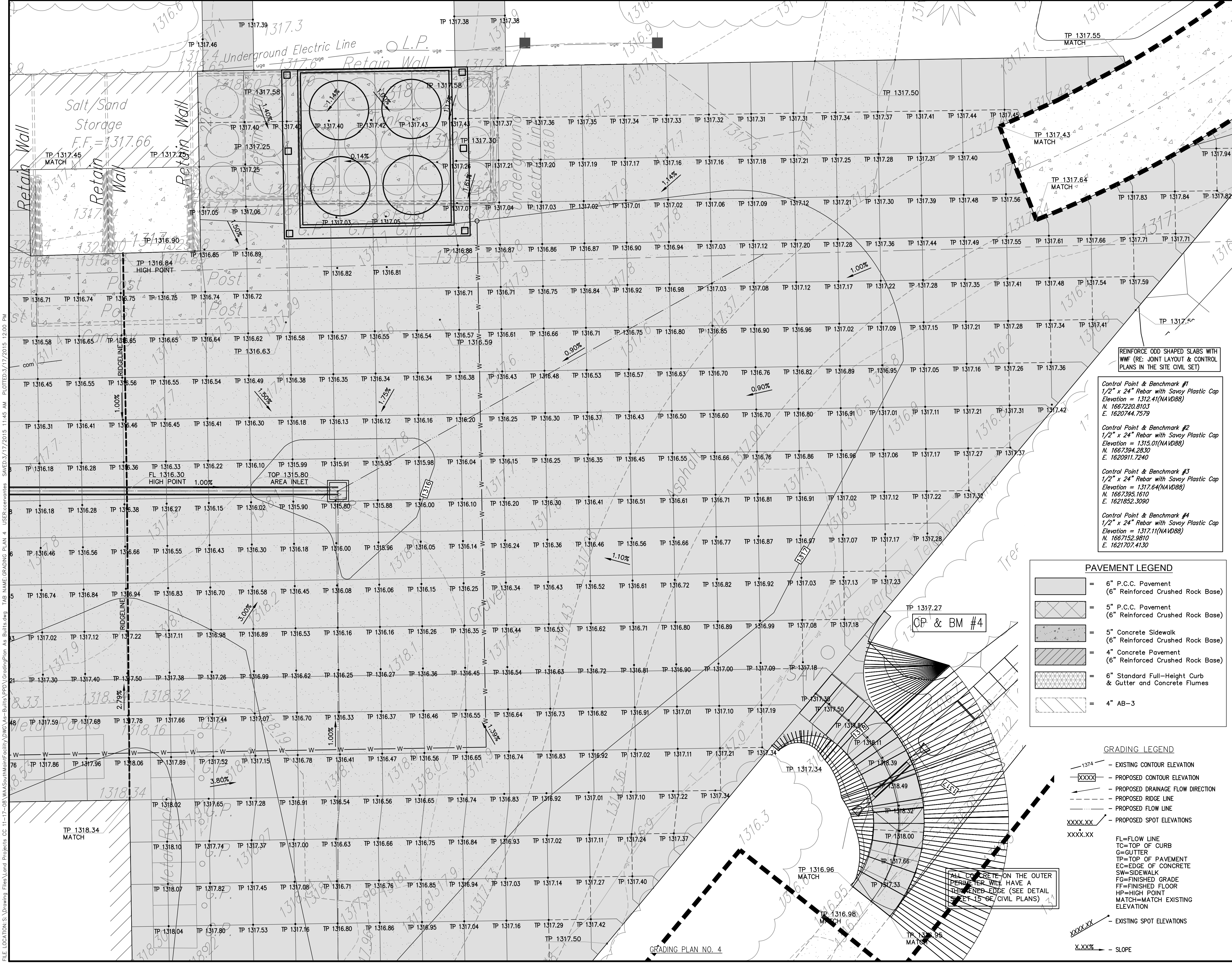
1935 WEST MAPLE STREET  
 WICHITA, KANSAS 67213  
 PH.(316)262-8808 FAX.(316)262-1669



**BID DRAWINGS**

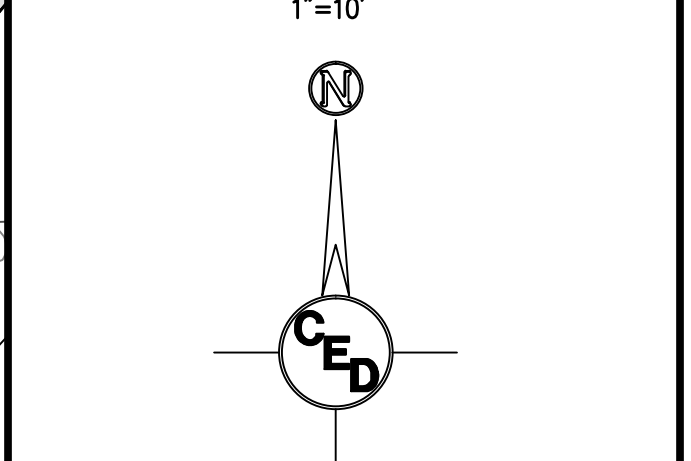
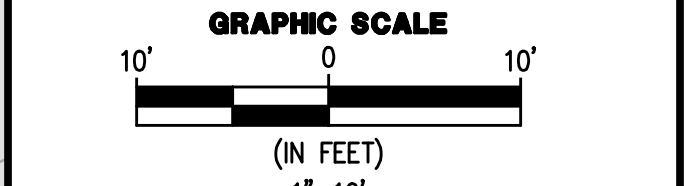
PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, KW | CHECKED BY: HDF

**GRADING PLAN 3**



| REV. | DESCRIPTION | DATE |
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AS BUILT PLANS:  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015



### SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION

WICHITA MID-CONTINENT AIRPORT  
 SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
 CIVIL ENGINEERING SERVICES



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 WICHITA, KANSAS 67213  
 PH.(316)262-8808 FAX.(316)262-1669



### BID DRAWINGS

PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, CKW | CHECKED BY: HDF

### GRADING PLAN 4

FILE LOCATION: S:\Drawing Files\Land Projects\CC 11-17-08\WASouthMainFacility\DWG\As-Built\GradingPlan As-Built.dwg  
 TAB NAME: GRADING PLAN 4  
 USER: cecreventes  
 PLOTTED: 3/17/2015 11:45 AM

#### PAVEMENT LEGEND

|  |   |
|--|---|
|  | = 6" P.C.C. Pavement (6" Reinforced Crushed Rock Base)      |
|  | = 5" P.C.C. Pavement (6" Reinforced Crushed Rock Base)      |
|  | = 5" Concrete Sidewalk (6" Reinforced Crushed Rock Base)    |
|  | = 4" Concrete Pavement (6" Reinforced Crushed Rock Base)    |
|  | = 6" Standard Full-Height Curb & Gutter and Concrete Flumes |
|  | = 4" AB-3   |

#### GRADING LEGEND

|  |                                    |
|--|------------------------------------|
|  | = EXISTING CONTOUR ELEVATION       |
|  | = PROPOSED CONTOUR ELEVATION       |
|  | = PROPOSED DRAINAGE FLOW DIRECTION |
|  | = PROPOSED RIDGE LINE              |
|  | = PROPOSED FLOW LINE               |
|  | = PROPOSED SPOT ELEVATIONS         |
|  | = EXISTING SPOT ELEVATIONS         |
|  | = SLOPE                            |

Control Point & Benchmark #1  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1312.41 (NAVD88)  
 N. 1667220.8103  
 E. 1620744.7579

Control Point & Benchmark #2  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1315.01 (NAVD88)  
 N. 1667394.2830  
 E. 1620911.7240

Control Point & Benchmark #3  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.64 (NAVD88)  
 N. 1667395.1610  
 E. 1621852.3090

Control Point & Benchmark #4  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.11 (NAVD88)  
 N. 1667322.9810  
 E. 1621707.4130

REINFORCE ODD SHAPED SLABS WITH WWF (RE: JOINT LAYOUT & CONTROL PLANS IN THE SITE CIVIL SET)

ALL CONCRETE ON THE OUTER PERIMETER WILL HAVE A THICKENED EDGE (SEE DETAIL SHEET 15 OF CIVIL PLANS)

GRADING PLAN NO. 4

FILE LOCATION: S:\Drawing Files\Land Projects\CC 11-17-08\WASouthMainFacility\DWG\As-Built\GradingPlan As-Built.dwg TAB NAME: GRADING PLAN 5 USER: cecventures SAVED: 3/17/2015 11:45 AM PLOTTED: 3/17/2015 12:01 PM

**PAVEMENT LEGEND**

|  |  |
|--|--|
|  | = 6" P.C.C. Pavement<br>(6" Reinforced Crushed Rock Base)      |
|  | = 5" P.C.C. Pavement<br>(6" Reinforced Crushed Rock Base)      |
|  | = 5" Concrete Sidewalk<br>(6" Reinforced Crushed Rock Base)    |
|  | = 4" Concrete Pavement<br>(6" Reinforced Crushed Rock Base)    |
|  | = 6" Standard Full-Height Curb<br>& Gutter and Concrete Flumes |
|  | = 4" AB-3  |

ALL CONCRETE ON THE OUTER PERIMETER  
WILL HAVE A THICKENED EDGE (SEE DETAIL  
SHEET 15 OF CIVIL PLANS)

**Control Point & Benchmark #1**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1312.41(NAVD88)  
N. 1667220.8103  
E. 1620744.7579

**Control Point & Benchmark #2**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1315.01(NAVD88)  
N. 1667394.2830  
E. 1620911.7240

**Control Point & Benchmark #3**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1317.64(NAVD88)  
N. 1667395.1610  
E. 1621852.3090

**Control Point & Benchmark #4**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1317.11(NAVD88)  
N. 1667152.9810  
E. 1621707.4130

REINFORCE ODD SHAPED  
SLABS WITH WWF (RE: JOINT  
LAYOUT & CONTROL PLANS IN  
THE SITE CIVIL SET)

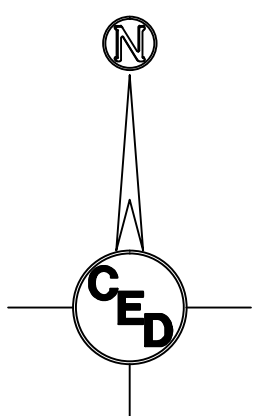
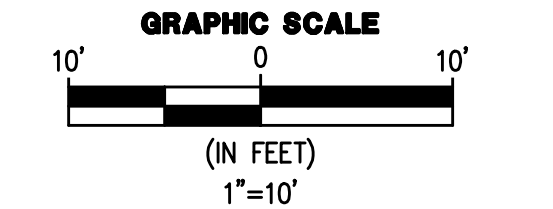
**GRADING LEGEND**

|  |                                    |
|--|------------------------------------|
|  | - EXISTING CONTOUR ELEVATION       |
|  | - PROPOSED CONTOUR ELEVATION       |
|  | - PROPOSED DRAINAGE FLOW DIRECTION |
|  | - PROPOSED RIDGE LINE              |
|  | - PROPOSED FLOW LINE               |
|  | - PROPOSED SPOT ELEVATIONS         |
|  | - EXISTING SPOT ELEVATIONS         |

FL=FLOW LINE  
TC=TOP OF CURB  
G=GUTTER  
TP=TOP OF PAVEMENT  
EC=EDGE OF CONCRETE  
SW=SIDEWALK  
FG=FINISHED GRADE  
FF=FINISHED FLOOR  
HP=HIGH POINT  
MATCH=MATCH EXISTING  
ELEVATION

| REV. | DESCRIPTION | DATE |
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AS BUILT PLANS:  
CONTRACTOR: WILDCAT CONSTRUCTION  
INSPECTOR: RANDY VOTH, C.E.D.  
PDF BY: C.C. 3-18-2015



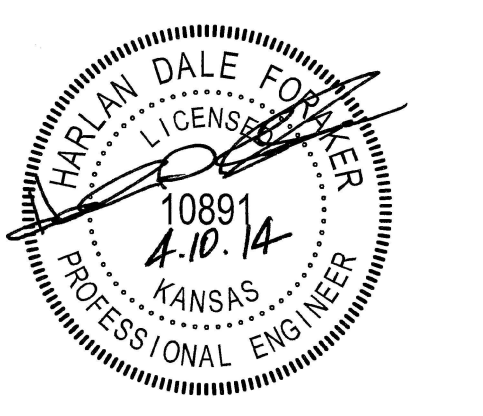
**SOUTH MAINTENANCE  
YARD IMPROVEMENTS  
& PARKING LOT  
RECONSTRUCTION**

WICHITA  
MID-CONTINENT  
AIRPORT  
SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES



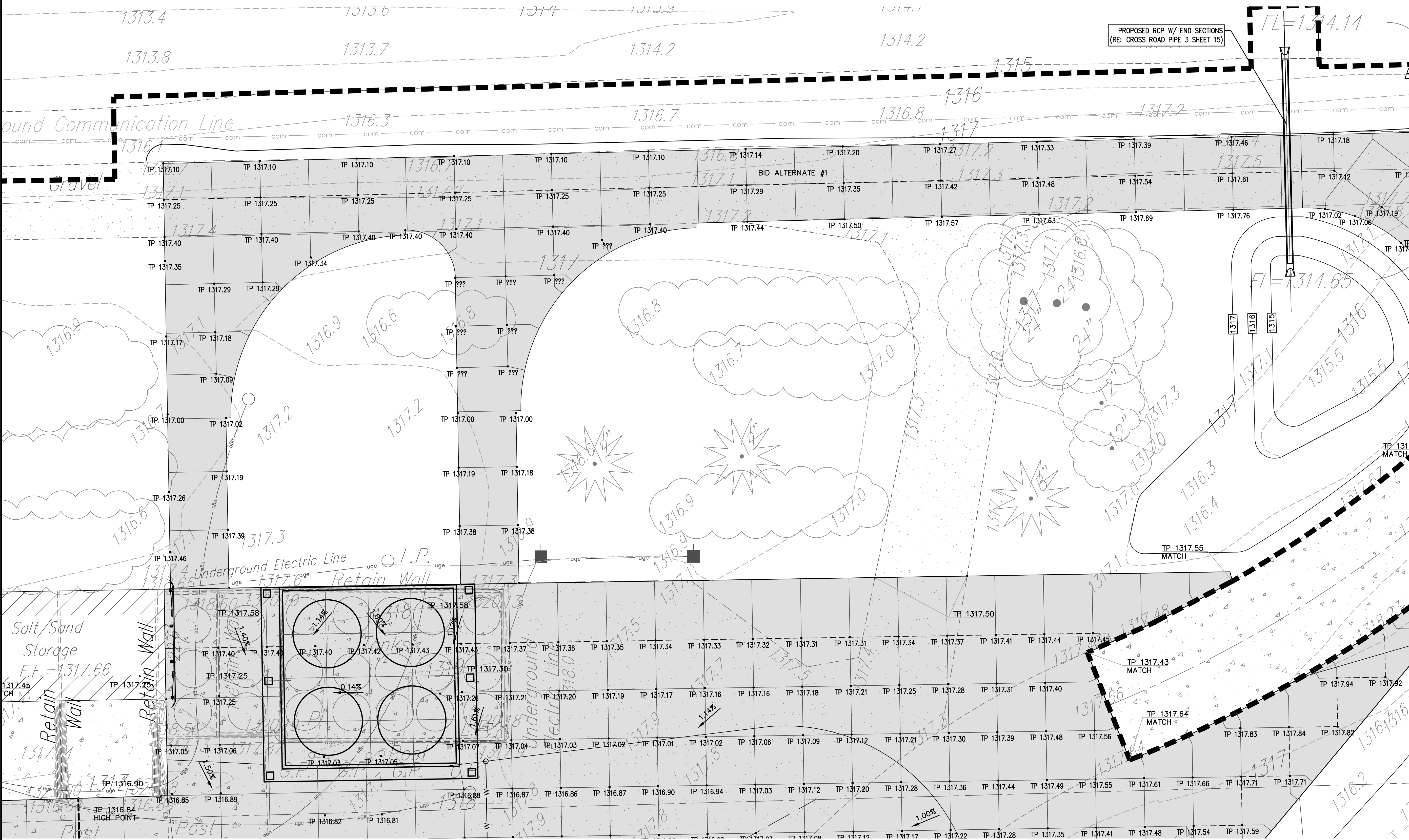
1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669



BID DRAWINGS

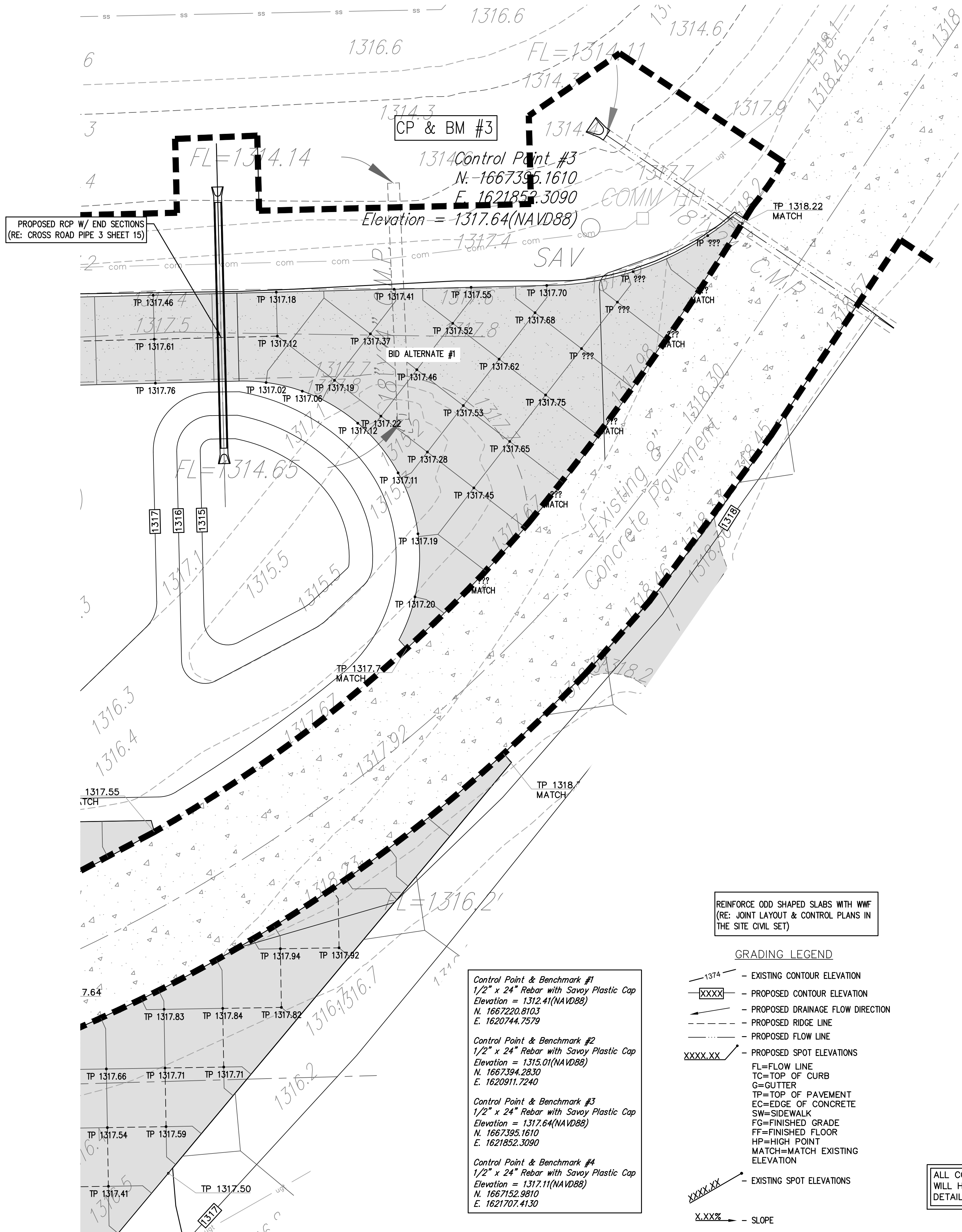
PROJECT NO.: 20122036  
ISSUE DATE: APRIL 2014  
CONTACT: H FORAKER  
DRAWN BY: CC, CKW | CHECKED BY: HDF

**GRADING PLAN 5**



GRADING PLAN NO. 5

FILE LOCATION: S:\Drawing Files\Land Projects CC 11-17-08\WASouthMainFacility\DWG\As-Built\PPD\GradingPlan As-Built.dwg TAB NAME: GRADING PLAN 6 USER: cecventes SAVED: 3/17/2015 11:45 AM PLOTTED: 3/17/2015 12:01 PM



GRADING PLAN NO. 6

**Control Point & Benchmark #1**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1312.41(NAVD88)  
 N. 1667220.9103  
 E. 1620744.7579

**Control Point & Benchmark #2**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1315.01(NAVD88)  
 N. 1667394.2830  
 E. 1620911.7240

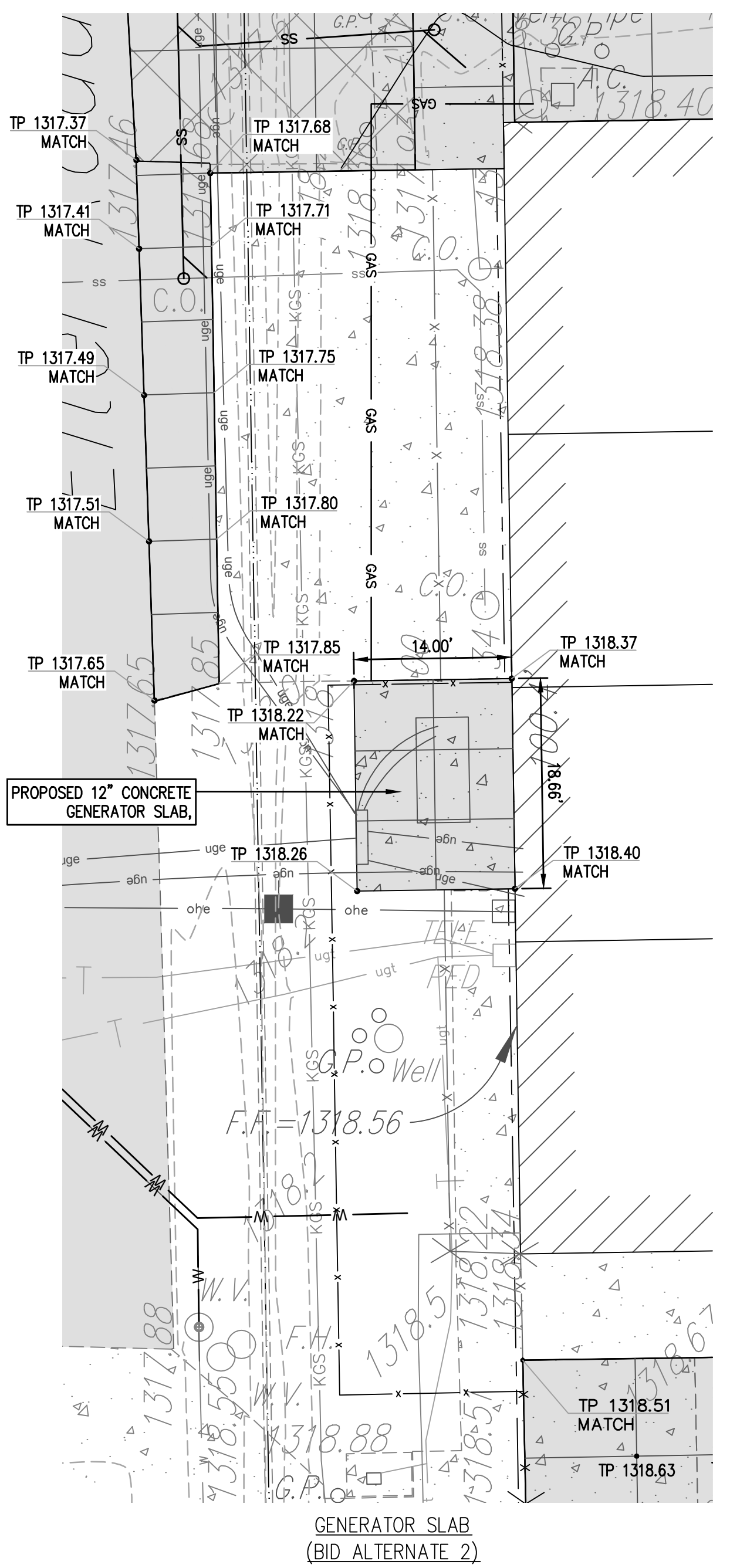
**Control Point & Benchmark #3**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.64(NAVD88)  
 N. 1667395.1610  
 E. 1621852.3090

**Control Point & Benchmark #4**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.11(NAVD88)  
 N. 1667152.9810  
 E. 1621707.4130

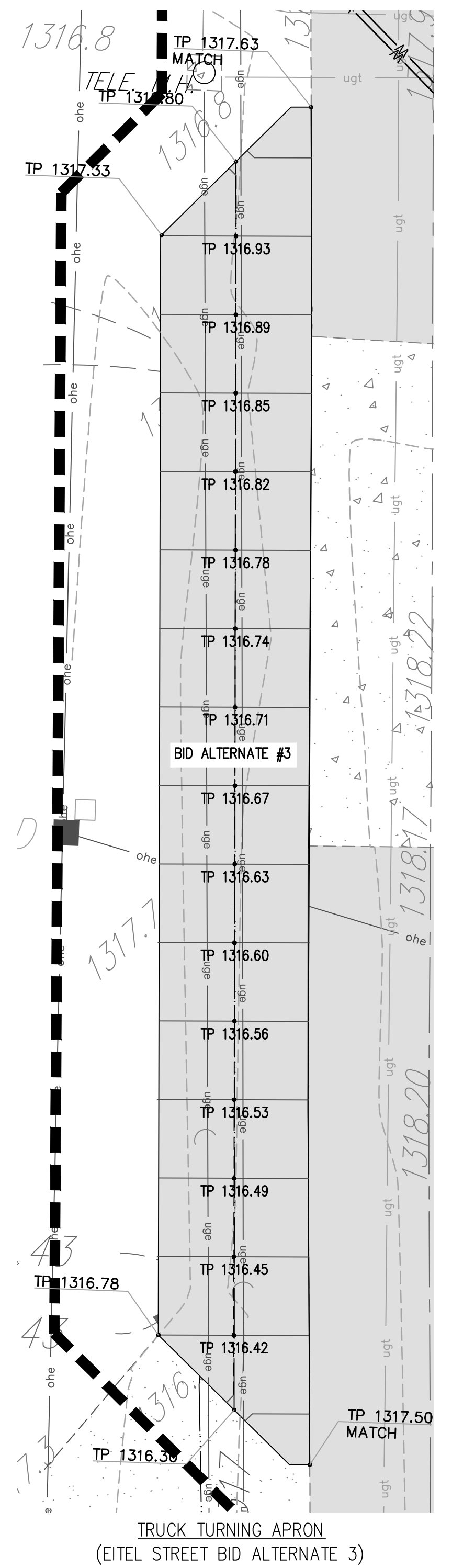
REINFORCE ODD SHAPED SLABS WITH WWF  
 (RE: JOINT LAYOUT & CONTROL PLANS IN THE SITE CIVIL SET)

- GRADING LEGEND**
- 1374- - EXISTING CONTOUR ELEVATION
  - XXXX - PROPOSED CONTOUR ELEVATION
  - - - - - PROPOSED DRAINAGE FLOW DIRECTION
  - - - - - PROPOSED RIDGE LINE
  - - - - - PROPOSED FLOW LINE
  - XXXX.XX - PROPOSED SPOT ELEVATIONS
  - XXXX.XX - EXISTING SPOT ELEVATIONS
  - X.XX% - SLOPE

ALL CONCRETE ON THE OUTER PERIMETER  
 WILL HAVE A THICKENED EDGE (SEE  
 DETAIL SHEET 15 OF CIVIL PLANS)

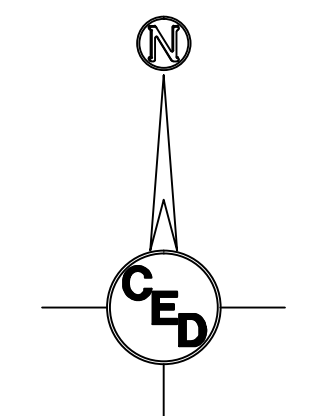
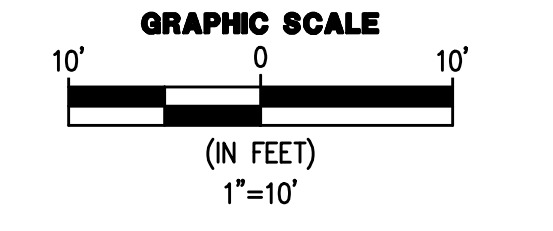


- PAVEMENT LEGEND**
- [Pattern] = 6" P.C.C. Pavement (6" Reinforced Crushed Rock Base)
  - [Pattern] = 5" P.C.C. Pavement (6" Reinforced Crushed Rock Base)
  - [Pattern] = 5" Concrete Sidewalk (6" Reinforced Crushed Rock Base)
  - [Pattern] = 4" Concrete Pavement (6" Reinforced Crushed Rock Base)
  - [Pattern] = 6" Standard Full-Height Curb & Gutter and Concrete Flumes
  - [Pattern] = 4" AB-3



| REV. | DESCRIPTION | DATE |
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AS BUILT PLANS:  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015



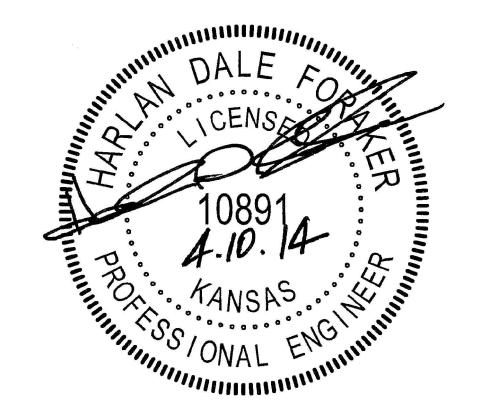
**SOUTH MAINTENANCE  
 YARD IMPROVEMENTS  
 & PARKING LOT  
 RECONSTRUCTION**

WICHITA  
 MID-CONTINENT  
 AIRPORT  
 SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
 CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
 WICHITA, KANSAS 67213  
 PH.(316)262-8808 FAX.(316)262-1669

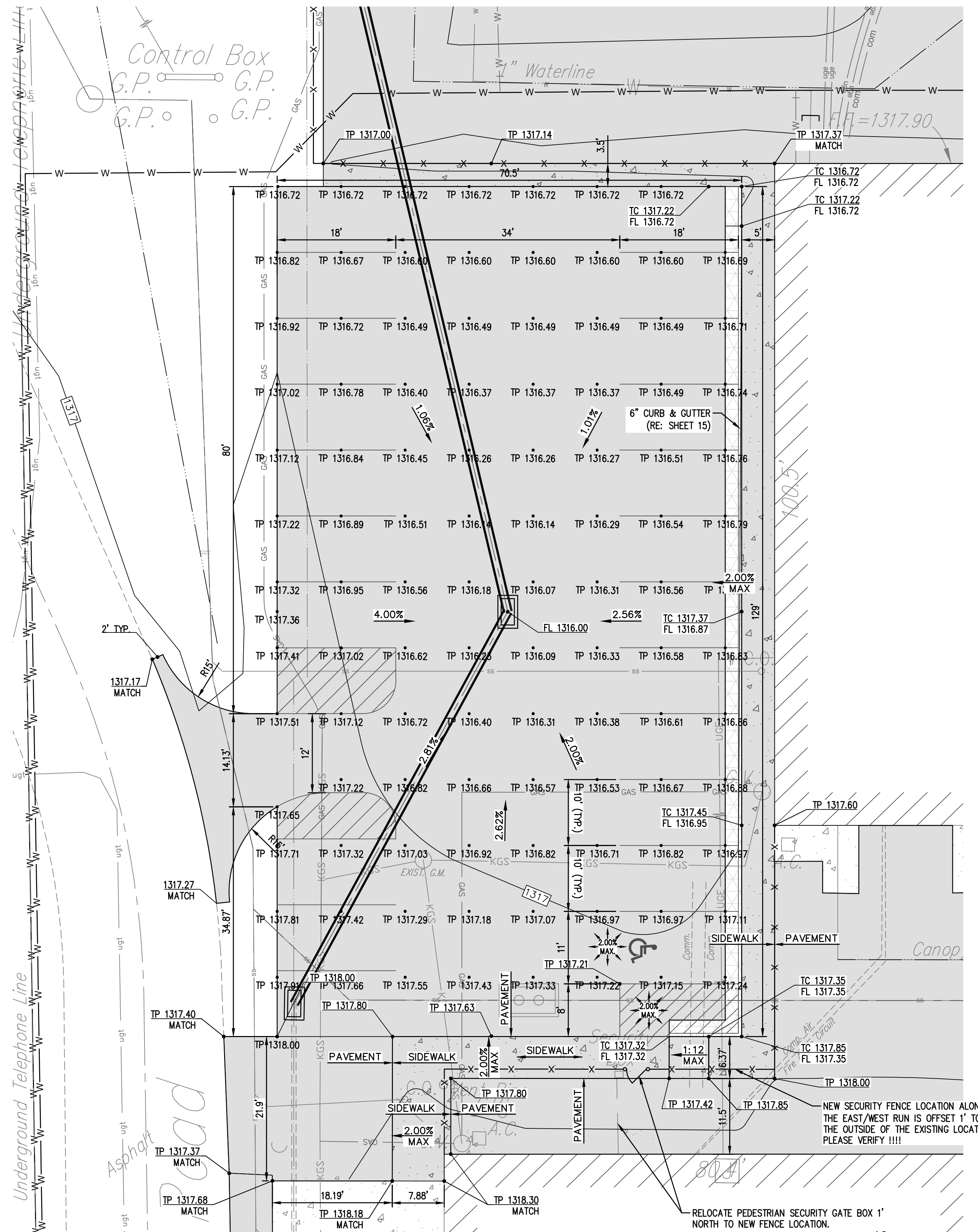


**BID DRAWINGS**

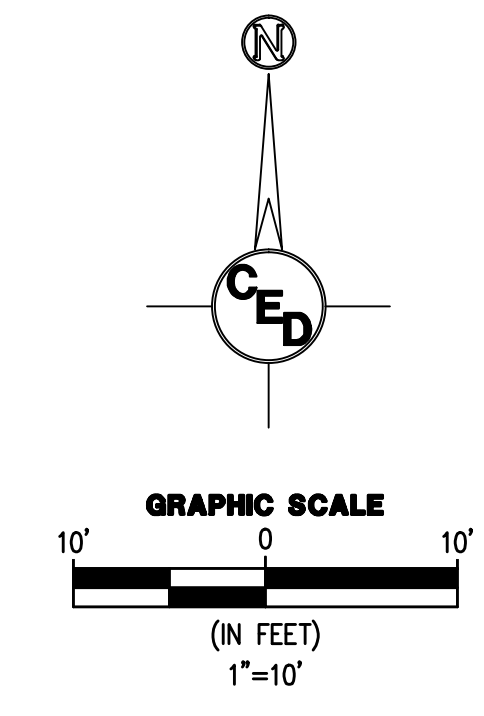
PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, KKW | CHECKED BY: HDF

**GRADING PLAN 6**

FILE LOCATION: S:\Drawing Files\Lead Projects CC 11-17-08\WASouthMainFacility\DWG\As-Built\Site Plan As-Built.dwg TAB NAME: Parking Lot Site Plan USER: rccorvantes SAVED: 3/17/2015 11:47 AM PLOTTED: 3/17/2015 12:02 PM



PARKING LOT SITE GRADING PLAN  
SCALE: 1"=10'



- GRADING LEGEND**
- 1374- - EXISTING CONTOUR ELEVATION
  - XXXX- - PROPOSED CONTOUR ELEVATION
  - - - - - PROPOSED DRAINAGE FLOW DIRECTION
  - - - - - PROPOSED RIDGE LINE
  - - - - - PROPOSED FLOW LINE
  - XXXX.XX - PROPOSED SPOT ELEVATIONS
  - FL=FLOW LINE
  - TC=TOP OF CURB
  - G=GUTTER
  - EC=EDGE OF CONCRETE
  - SW=SIDEWALK
  - FG=FINISHED GRADE
  - FF=FINISHED FLOOR
  - HP=HIGH POINT
  - MATCH=MATCH EXISTING ELEVATION
  - XXXX.XX - EXISTING SPOT ELEVATIONS
  - X.XX% - CRITICAL FLOW LINE SLOPE

REINFORCE ODD SHAPED SLABS WITH WWF (RE: JOINT LAYOUT & CONTROL PLANS IN THE SITE CIVIL SET)

NOTE:  
PARKING LOT PAVEMENT SHALL BE CONCRETE PAVEMENT (5" P.C.C.)(FIBER REINFORCED)  
ENTRANCE PAVEMENT SHALL BE CONCRETE PAVEMENT (6" P.C.C.)(FIBER REINFORCED)

- PAVEMENT LEGEND**
- [Pattern] = 6" P.C.C. Pavement (6" Reinforced Crushed Rock Base)
  - [Pattern] = 5" P.C.C. Pavement (6" Reinforced Crushed Rock Base)
  - [Pattern] = 5" Concrete Sidewalk (6" Reinforced Crushed Rock Base)
  - [Pattern] = 4" Concrete Pavement (6" Reinforced Crushed Rock Base)
  - [Pattern] = 6" Standard Full-Height Curb & Gutter and Concrete Flumes
  - [Pattern] = 4" AB-3

ALL CONCRETE ON THE OUTER PERIMETER WILL HAVE A THICKENED EDGE (SEE DETAIL SHEET 15 CIVIL PLANS)

NOTE:  
PAVEMENT MARKING SHALL BE INSTALLED BY W.A.A. NOT IN CONTRACT

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AS BUILT PLANS:  
CONTRACTOR: WILDCAT CONSTRUCTION  
INSPECTOR: RANDY VOTH, C.E.D.  
PDF BY: C.C. 3-18-2015



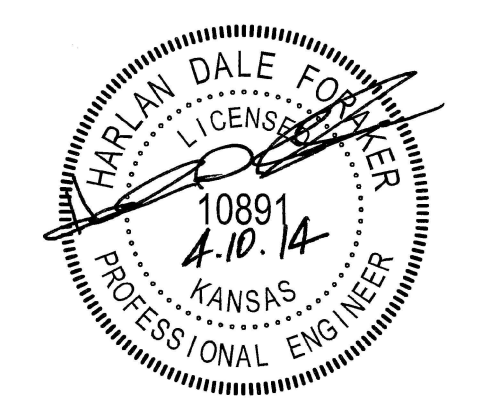
**SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION**

WICHITA MID-CONTINENT AIRPORT  
SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669

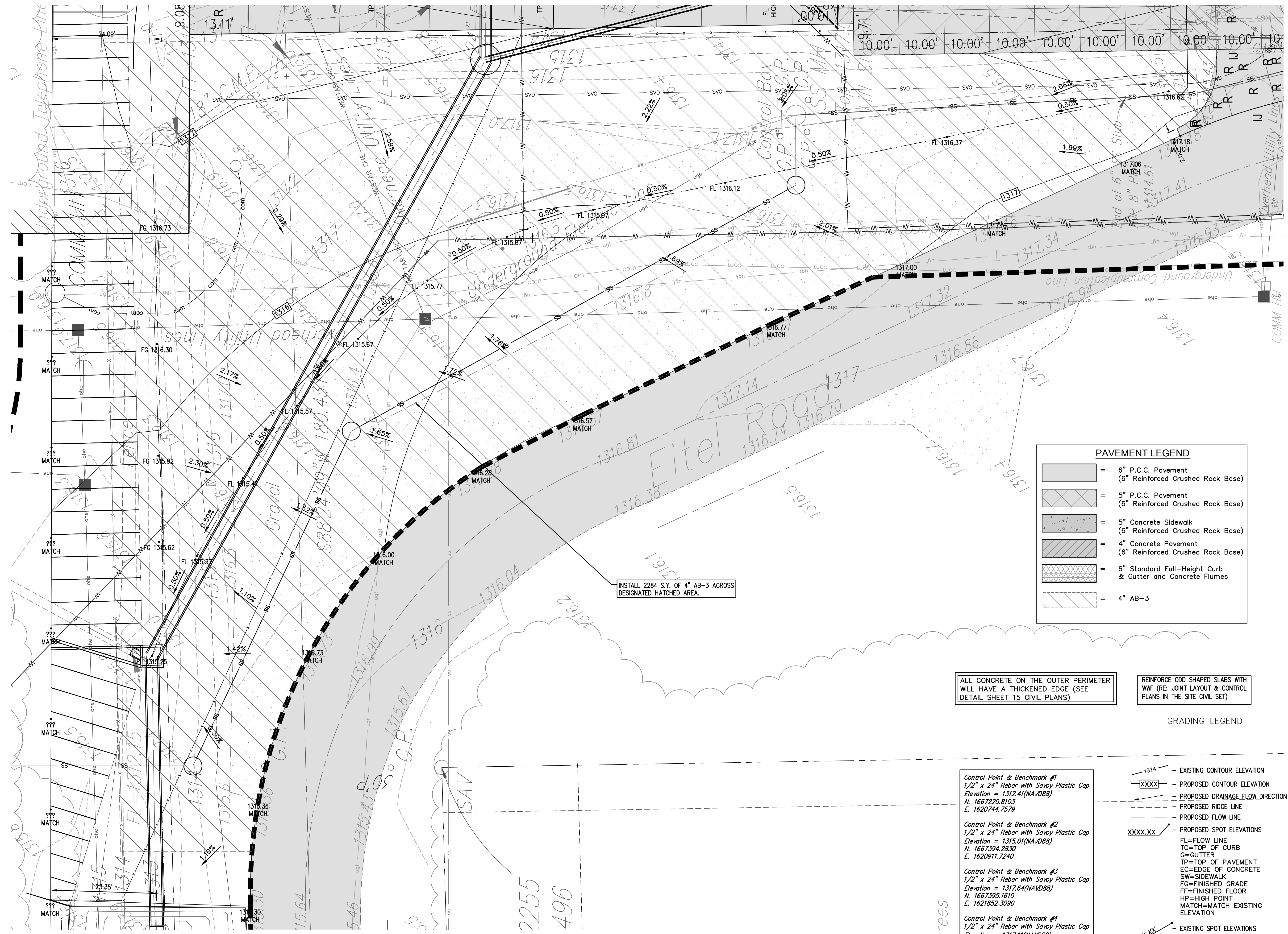


BID DRAWINGS

PROJECT NO.: 20122036  
ISSUE DATE: APRIL 2014  
CONTACT: H FORAKER  
DRAWN BY: CC, CKW | CHECKED BY: HDF

**PARKING LOT SITE GRADING PLAN**

FILE LOCATION: S:\Drawing Files\Lead Projects CC 11-17-08\WAS\SouthMainFacility\DWG\As-Built\GradingPlan As-Built.dwg TAB NAME:EITEL ROAD GRADING PLAN USER:ccornates SAVED:3/17/2015 11:45 AM PLOTTED:3/17/2015 12:02 PM



INSTALL 2284 S.Y. OF 4" AB-3 ACROSS DESIGNATED HATCHED AREA.

ALL CONCRETE ON THE OUTER PERIMETER WILL HAVE A THICKENED EDGE (SEE DETAIL SHEET 15 CIVIL PLANS)

REINFORCE ODD SHAPED SLABS WITH WMF (RE: JOINT LAYOUT & CONTROL PLANS IN THE SITE CIVIL SET)

| PAVEMENT LEGEND |   |
|-----------------|---|
|                 | = 6" P.C.C. Pavement (6" Reinforced Crushed Rock Base)      |
|                 | = 5" P.C.C. Pavement (6" Reinforced Crushed Rock Base)      |
|                 | = 5" Concrete Sidewalk (6" Reinforced Crushed Rock Base)    |
|                 | = 4" Concrete Pavement (6" Reinforced Crushed Rock Base)    |
|                 | = 6" Standard Full-Height Curb & Gutter and Concrete Flumes |
|                 | = 4" AB-3   |

GRADING LEGEND

**Control Point & Benchmark #1**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1312.41(NAVD88)  
 N. 1667220.8103  
 E. 1620744.7579

**Control Point & Benchmark #2**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1315.01(NAVD88)  
 N. 1667394.2830  
 E. 1620911.7240

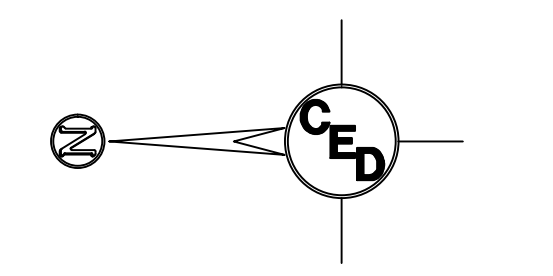
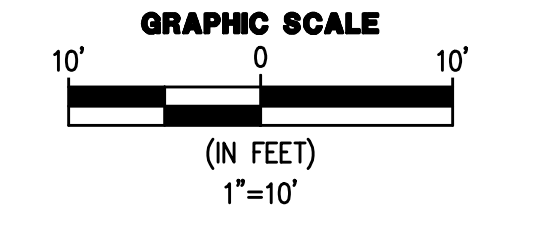
**Control Point & Benchmark #3**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.64(NAVD88)  
 N. 1667395.1610  
 E. 1621852.3090

**Control Point & Benchmark #4**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.11(NAVD88)  
 N. 1667152.9810  
 E. 1621707.4130

- - - - - 1374 - EXISTING CONTOUR ELEVATION
- - - - - XXXX - PROPOSED CONTOUR ELEVATION
- - - - - - - - - PROPOSED DRAINAGE FLOW DIRECTION
- - - - - - - - - PROPOSED RIDGE LINE
- - - - - - - - - PROPOSED FLOW LINE
- XXXX.XX - PROPOSED SPOT ELEVATIONS
- FL=FLOW LINE
- TC=TOP OF CURB
- G=GUTTER
- TP=TOP OF PAVEMENT
- EC=EDGE OF CONCRETE
- SW=SIDEWALK
- FG=FINISHED GRADE
- FF=FINISHED FLOOR
- HP=HIGH POINT
- MATCH=MATCH EXISTING ELEVATION
- XXXX.XX - EXISTING SPOT ELEVATIONS
- X.XX% - SLOPE

| REV. | DESCRIPTION | DATE |
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AS BUILT PLANS:  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015



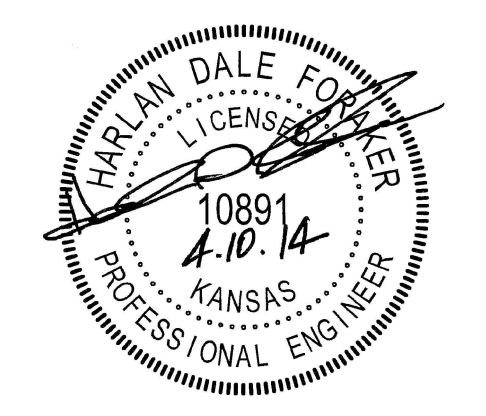
**SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION**

WICHITA MID-CONTINENT AIRPORT  
 SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
 CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
 WICHITA, KANSAS 67213  
 PH.(316)262-8808 FAX.(316)262-1669



BID DRAWINGS

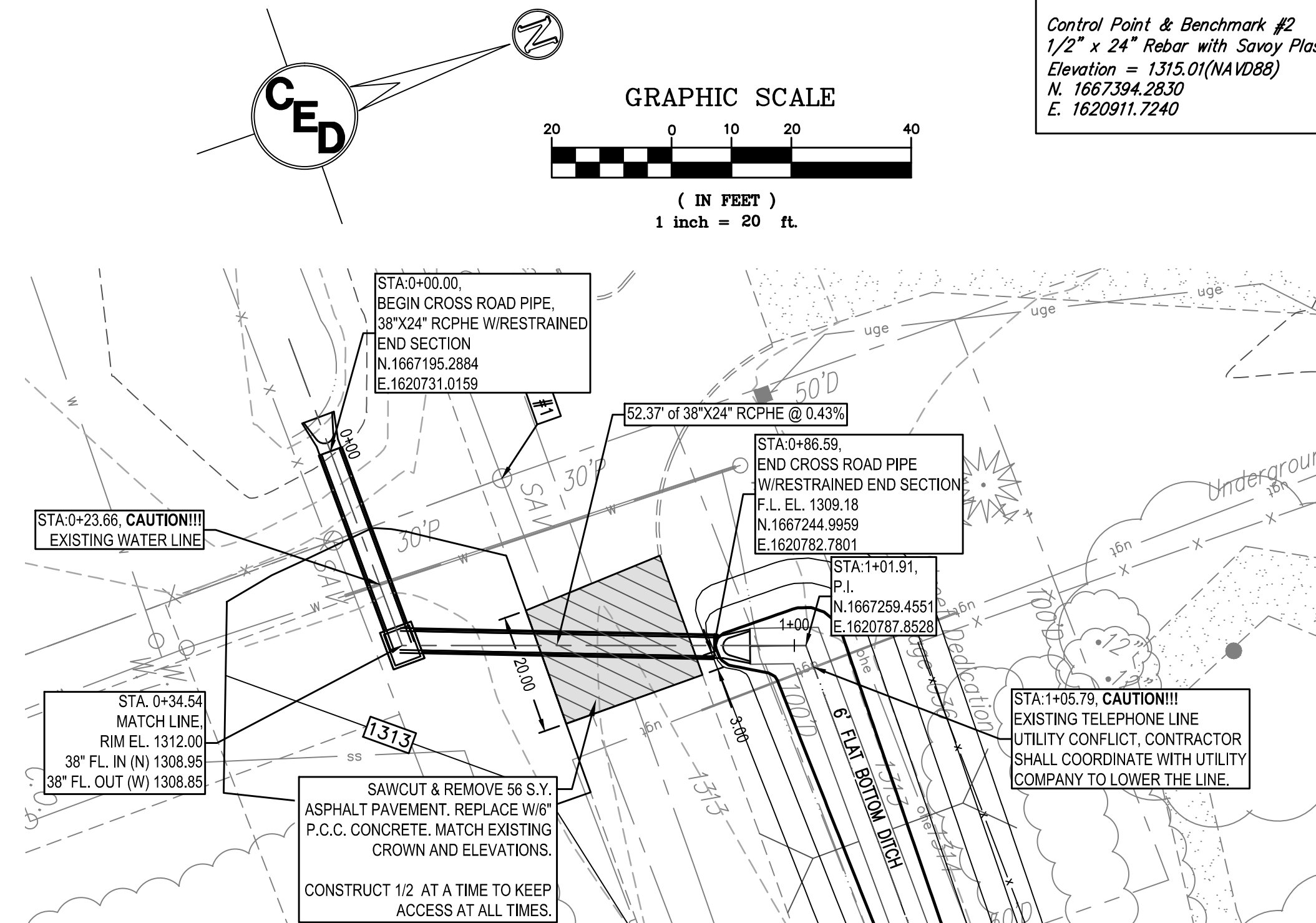
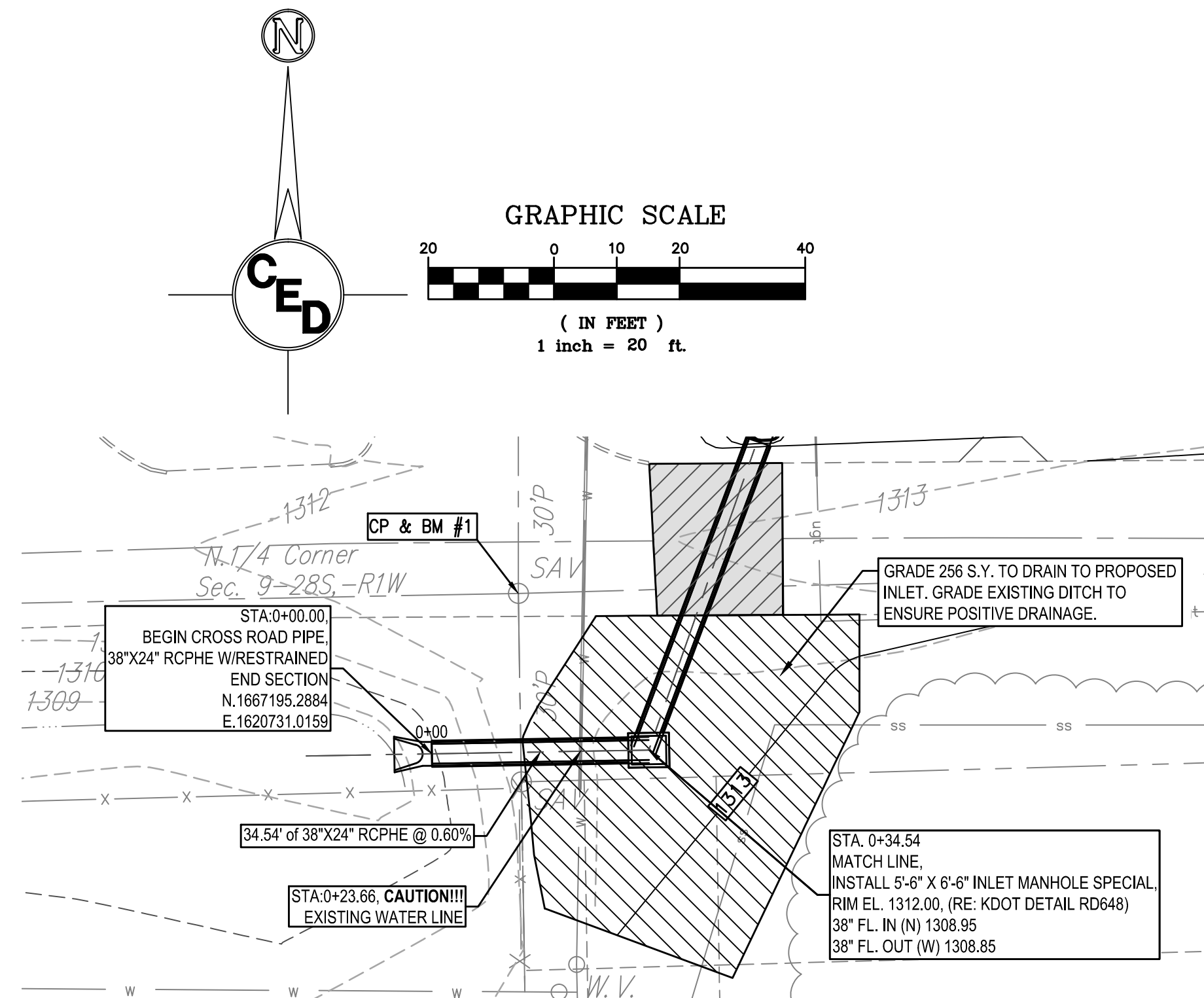
PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, CKW | CHECKED BY: HDF

**EITEL ROAD GRADING PLAN**

FILE LOCATION: S:\Drawing Files\Land Projects CC 11-17-08\WASouthMainFacility\DWG\As-Built\PPD\1Ditch Grading PP As Builts.dwg TAB NAME: CROSS ROAD PIPE 1 USER: cecenonies SAVED: 3/17/2015 11:49 AM PLOTTED: 3/17/2015 12:03 PM



KS: 1-800-344-7233  
WICHITA: 316-687-2470



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| <b>Control Point &amp; Benchmark #1</b><br>1/2" x 24" Rebar with Savoy Plastic Cap<br>Elevation = 1312.41(NAVD88)<br>N. 1667220.8103<br>E. 1620744.7579 | <b>Control Point &amp; Benchmark #3</b><br>1/2" x 24" Rebar with Savoy Plastic Cap<br>Elevation = 1317.64(NAVD88)<br>N. 1667395.1610<br>E. 1621852.3090 |
| <b>Control Point &amp; Benchmark #2</b><br>1/2" x 24" Rebar with Savoy Plastic Cap<br>Elevation = 1315.01(NAVD88)<br>N. 1667394.2830<br>E. 1620911.7240 | <b>Control Point &amp; Benchmark #4</b><br>1/2" x 24" Rebar with Savoy Plastic Cap<br>Elevation = 1317.11(NAVD88)<br>N. 1667152.9810<br>E. 1621707.4130 |

AS BUILT PLANS:  
CONTRACTOR: WILDCAT CONSTRUCTION  
INSPECTOR: RANDY VOTH, C.E.D.  
PDF BY: C.C. 3-18-2015



SOUTH MAINTENANCE  
YARD IMPROVEMENTS  
& PARKING LOT  
RECONSTRUCTION

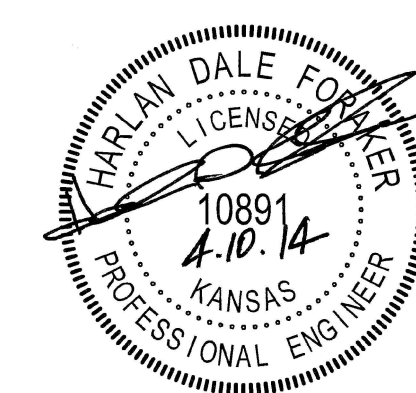
WICHITA  
MID-CONTINENT  
AIRPORT

SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669



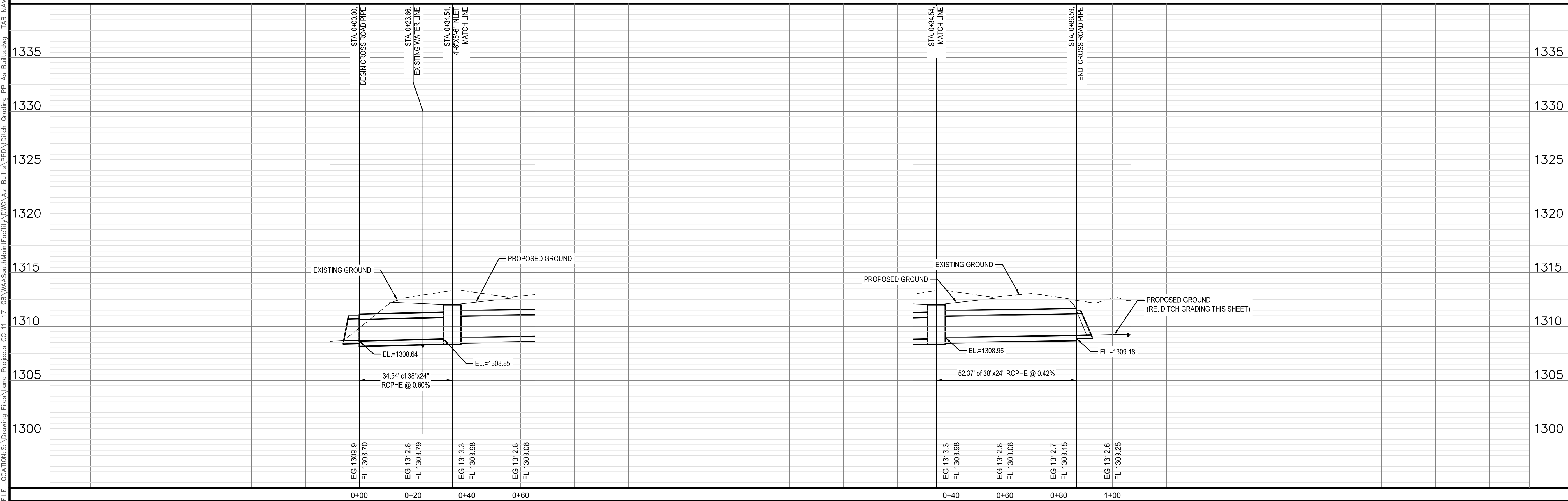
BID DRAWINGS

PROJECT NO.: 20122036  
ISSUE DATE: APRIL 2014  
CONTACT: H FORAKER  
DRAWN BY: CC, CKW | CHECKED BY: HDF

**CROSS ROAD PIPE 1**

**CROSS ROAD PIPE NO. 1**

**CROSS ROAD PIPE NO. 1**



Control Point & Benchmark #1  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1312.41(NAVD88)  
 N. 1667220.8103  
 E. 1620744.7579

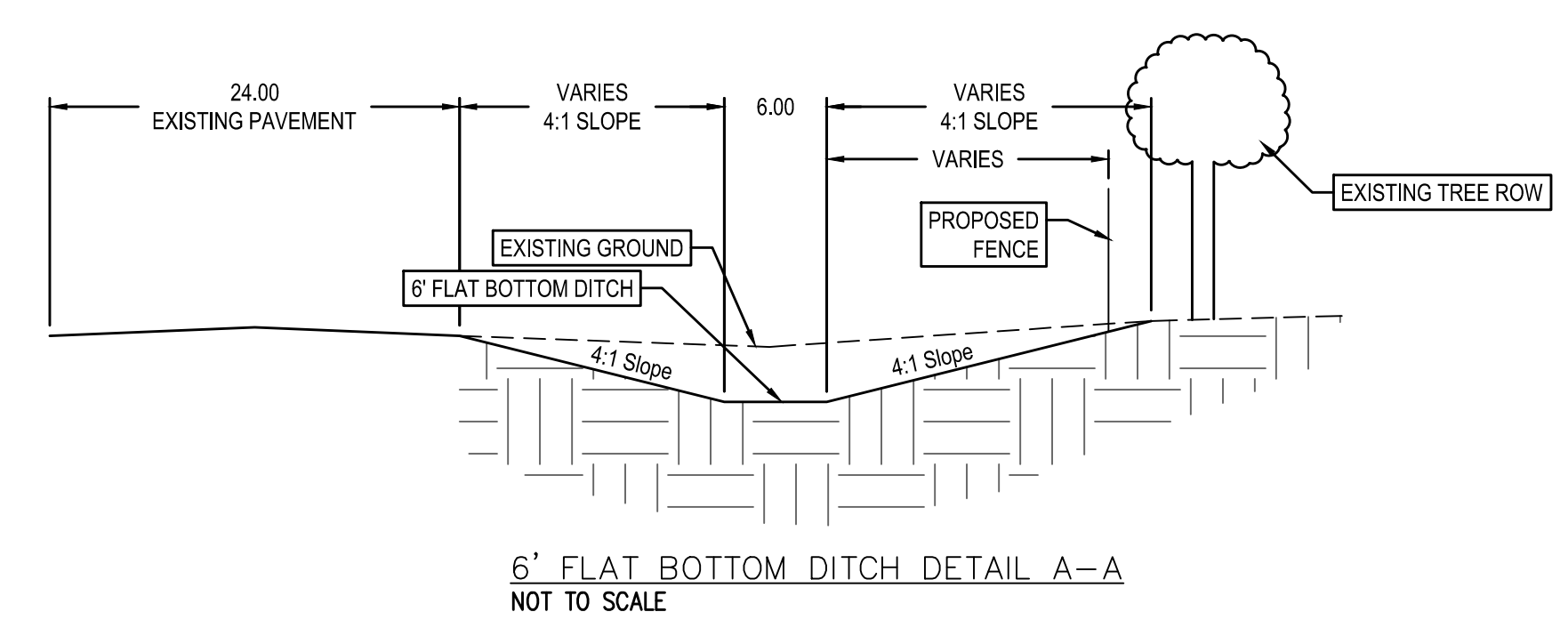
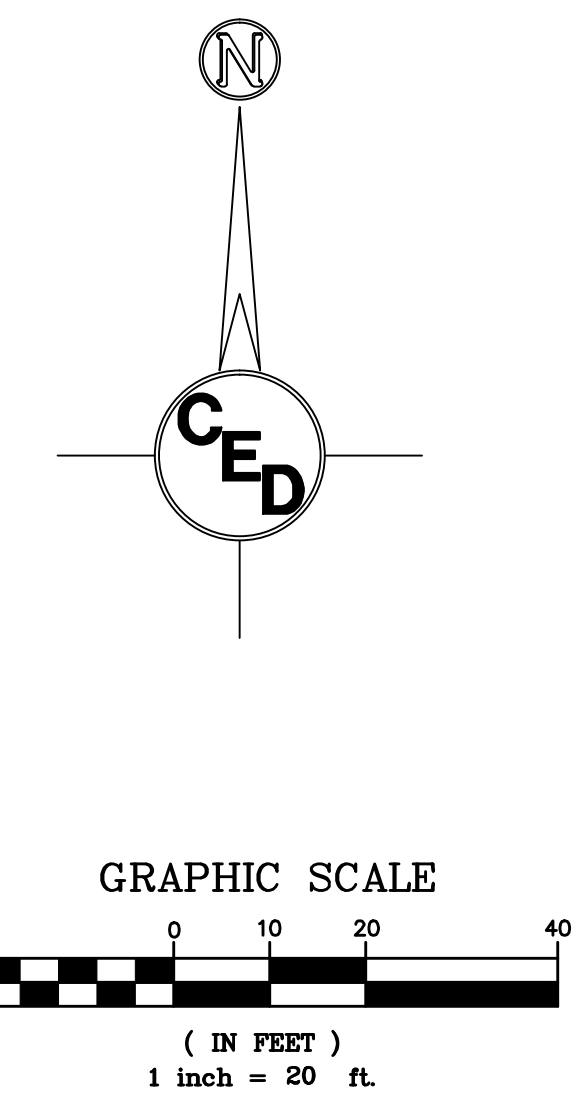
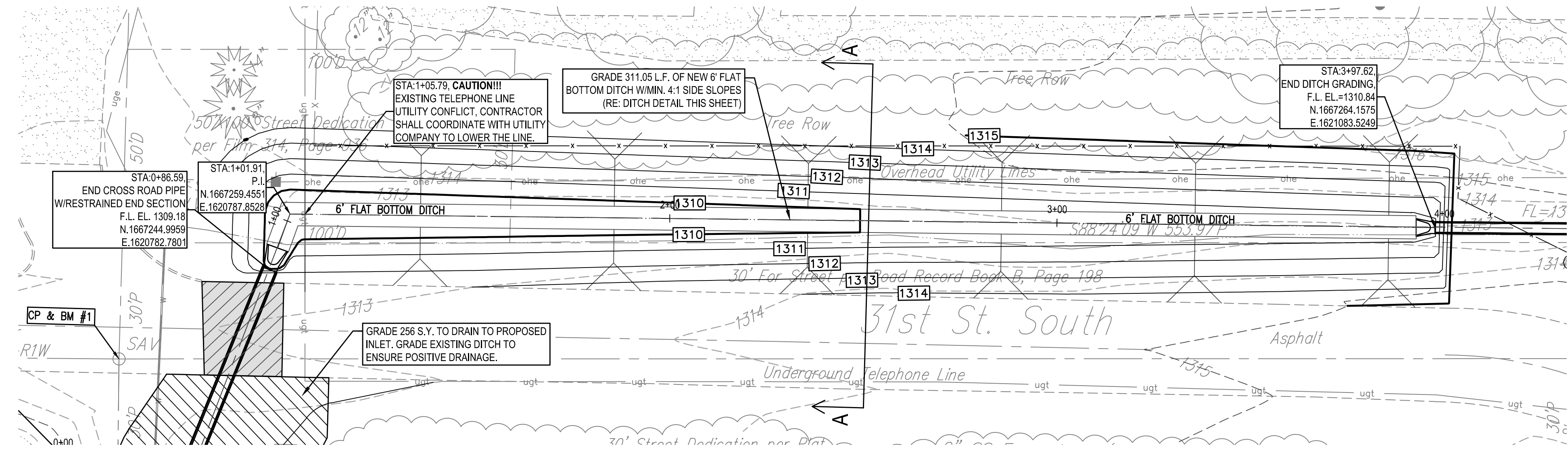
Control Point & Benchmark #2  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1315.01(NAVD88)  
 N. 1667394.2830  
 E. 1620911.7240

Control Point & Benchmark #3  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.64(NAVD88)  
 N. 1667395.1610  
 E. 1621852.3090

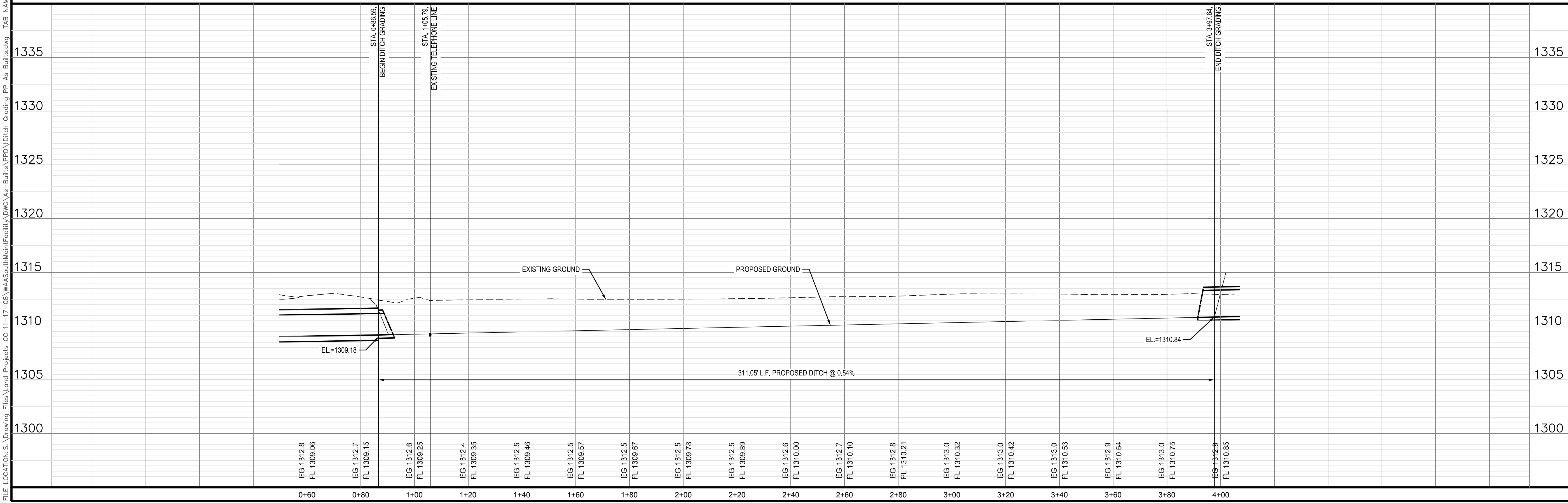
Control Point & Benchmark #4  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.11(NAVD88)  
 N. 1667152.9810  
 E. 1621707.4130

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AS BUILT PLANS:  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015



### DITCH GRADING NO. 1



FILE LOCATION: S:\Drawing Files\Land Projects CC 11-17-08\WASouthMainFacility\DWG\As-Built\Grading PP As-Built.dwg TAB NAME: DITCH GRADING 1 USER: cecvantes SAVED: 3/17/2015 11:49 AM PLOTTED: 3/17/2015 12:03 PM

KS: 1-800-344-7233  
 WICHITA: 316-687-2470

SOUTH MAINTENANCE  
 YARD IMPROVEMENTS  
 & PARKING LOT  
 RECONSTRUCTION

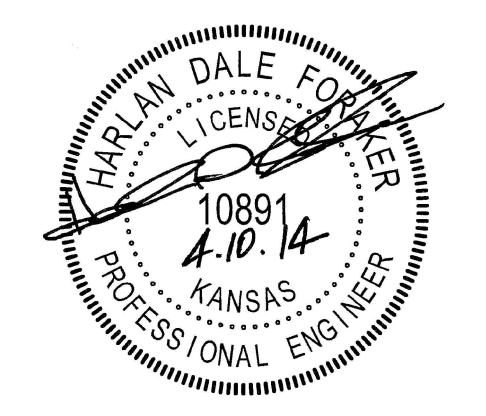
WICHITA  
 MID-CENTRUM  
 AIRPORT

SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
 CIVIL ENGINEERING SERVICES



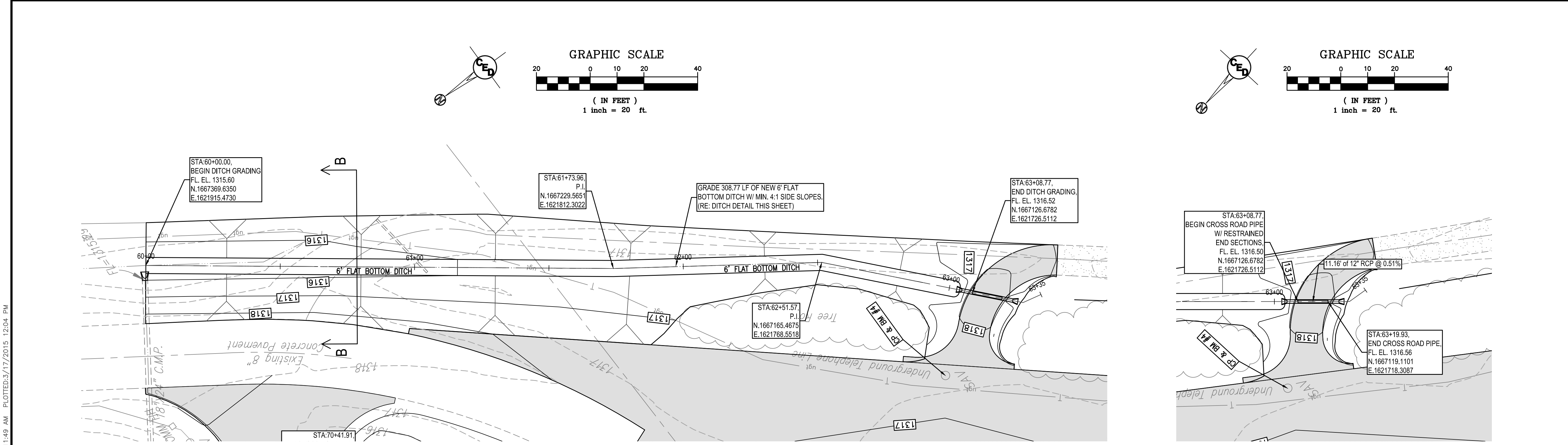
1935 WEST MAPLE STREET  
 WICHITA, KANSAS 67213  
 PH. (316) 262-8808 FAX. (316) 262-1669



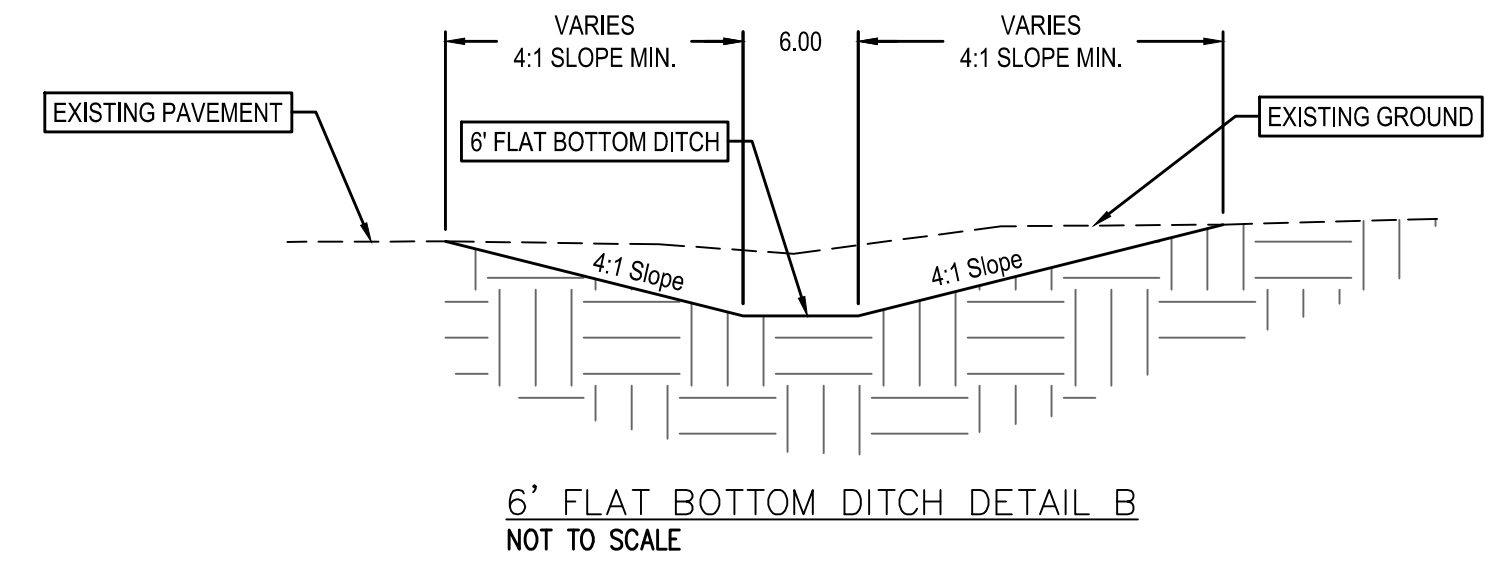
BID DRAWINGS

PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, CKW | CHECKED BY: HDF

### DITCH GRADING 1

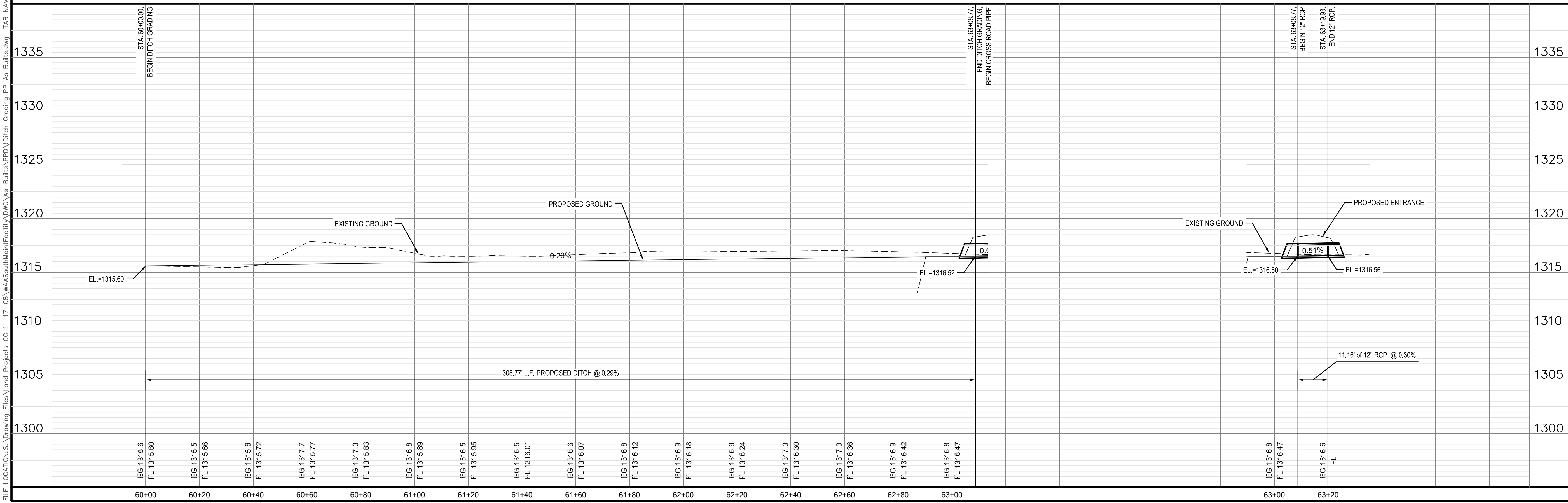


KS: 1-800-344-7233  
WICHITA: 316-887-2470



**DITCH GRADING NO. 2**

**CROSS ROAD PIPE NO. 2**



FILE LOCATION: S:\Drawing Files\Land Projects CC 11-17-08\WASouthMainFacility\DWG\As-Built\Grading & Cross Road Pipe 2 USER:rcemantes SAVED:3/17/2015 11:49 AM PLOTTED:3/17/2015 12:04 PM

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AS BUILT PLANS:  
CONTRACTOR: WILDCAT CONSTRUCTION  
INSPECTOR: RANDY VOTH, C.E.D.  
PDF BY: C.C. 3-18-2015

GRAPHIC SCALE  
(IN FEET)  
1" = 30'

ONE CALL  
KANSAS  
DIAL 811

**SOUTH MAINTENANCE  
YARD IMPROVEMENTS  
& PARKING LOT  
RECONSTRUCTION**

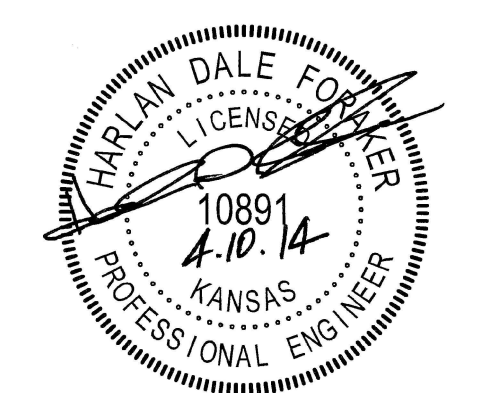
**WICHITA  
MID-CONTINENT  
AIRPORT**

SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669

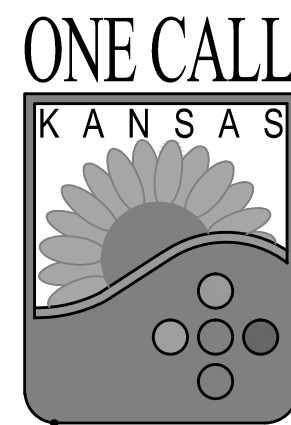


BID DRAWINGS

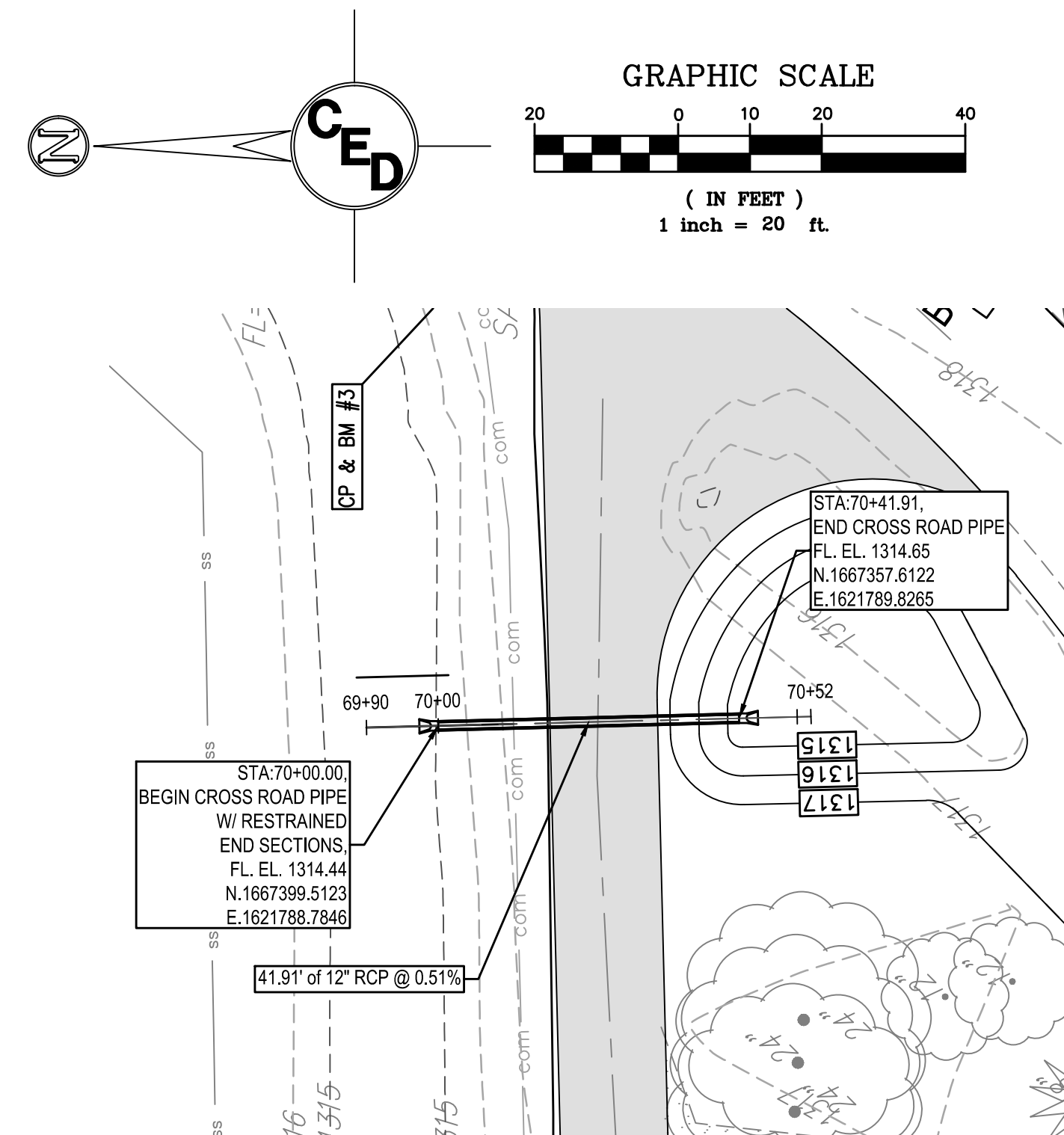
PROJECT NO.: 20122036  
ISSUE DATE: APRIL 2014  
CONTACT: H FORAKER  
DRAWN BY: CC, CKW | CHECKED BY: HDF

**DITCH GRADING &  
CROSS ROAD PIPE 2**

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KS: 1-800-344-7233  
WICHITA: 316-687-2470



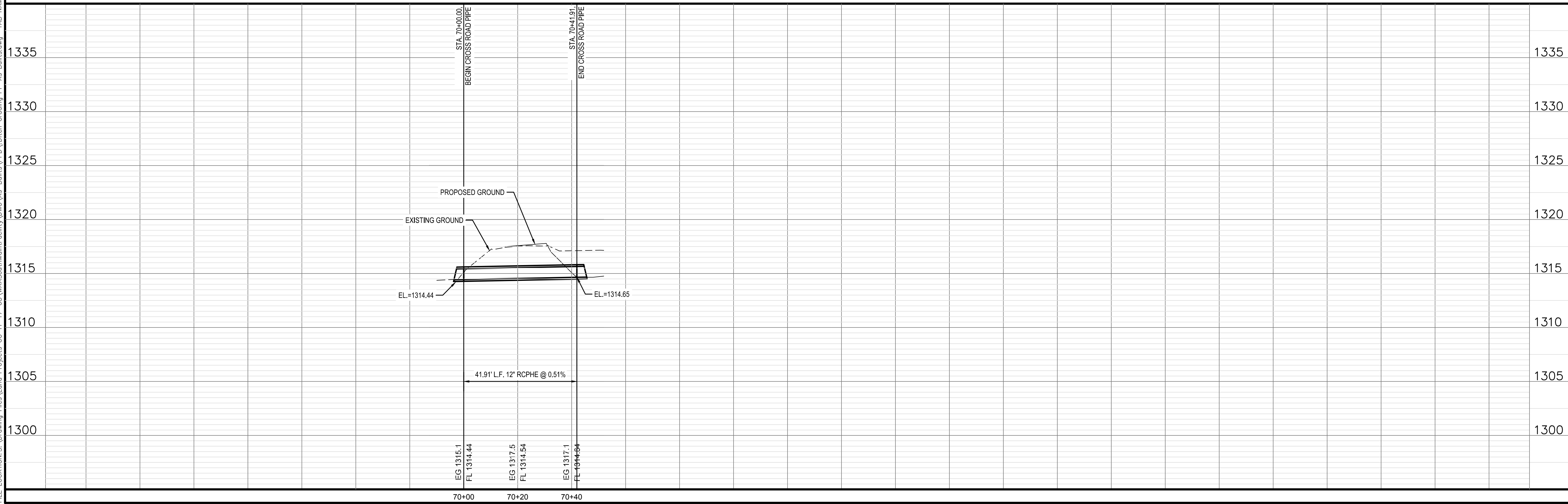
**Control Point & Benchmark #1**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1312.41(NAVD88)  
N. 1667220.8103  
E. 1620744.7579

**Control Point & Benchmark #2**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1315.01(NAVD88)  
N. 1667394.2830  
E. 1620911.7240

**Control Point & Benchmark #3**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1317.64(NAVD88)  
N. 1667395.1610  
E. 1621852.3090

**Control Point & Benchmark #4**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1317.11(NAVD88)  
N. 1667152.9810  
E. 1621707.4130

**CROSS ROAD PIPE NO. 3**



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AS BUILT PLANS:  
CONTRACTOR: WILDCAT CONSTRUCTION  
INSPECTOR: RANDY VOTH, C.E.D.  
PDF BY: C.C. 3-18-2015



**SOUTH MAINTENANCE  
YARD IMPROVEMENTS  
& PARKING LOT  
RECONSTRUCTION**

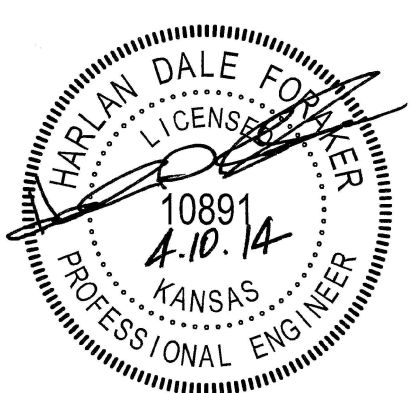
**WICHITA  
MID-CONTINENT  
AIRPORT**

SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES



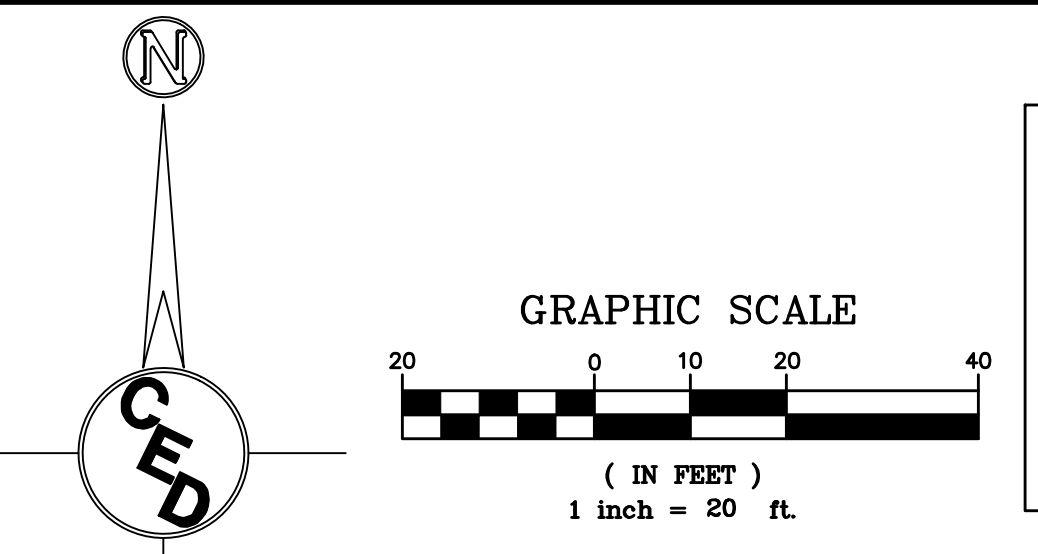
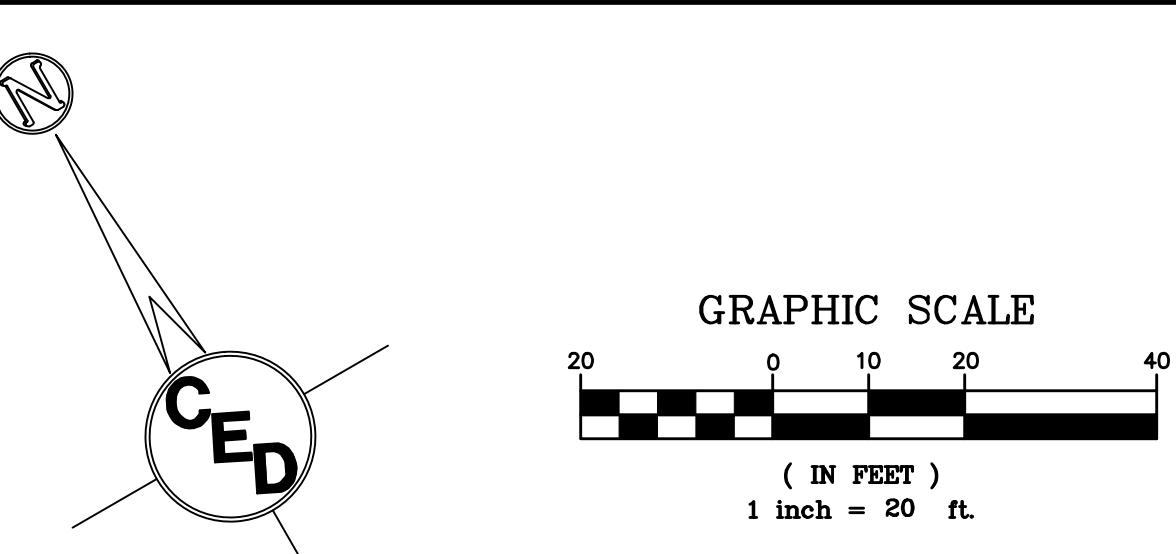
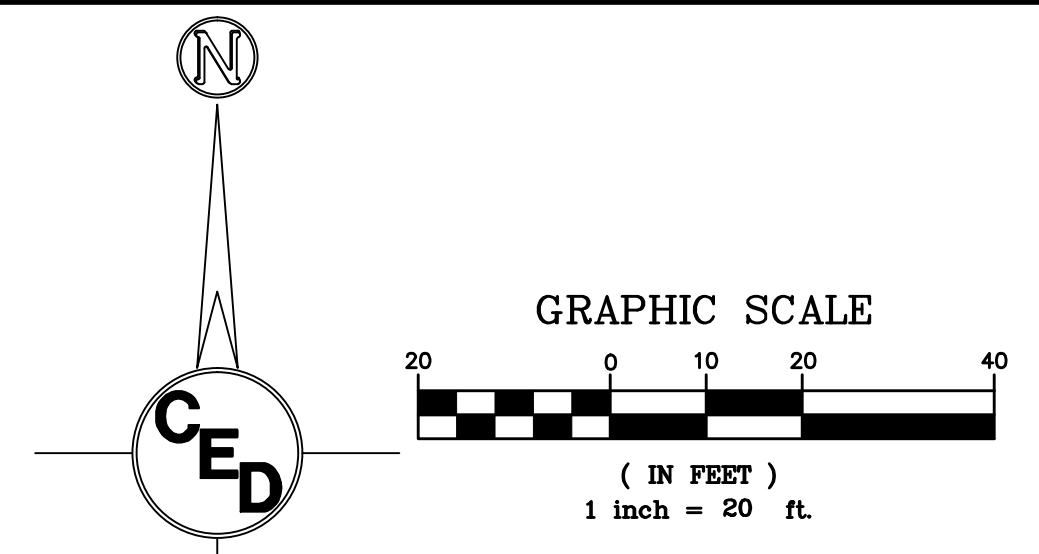
1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669



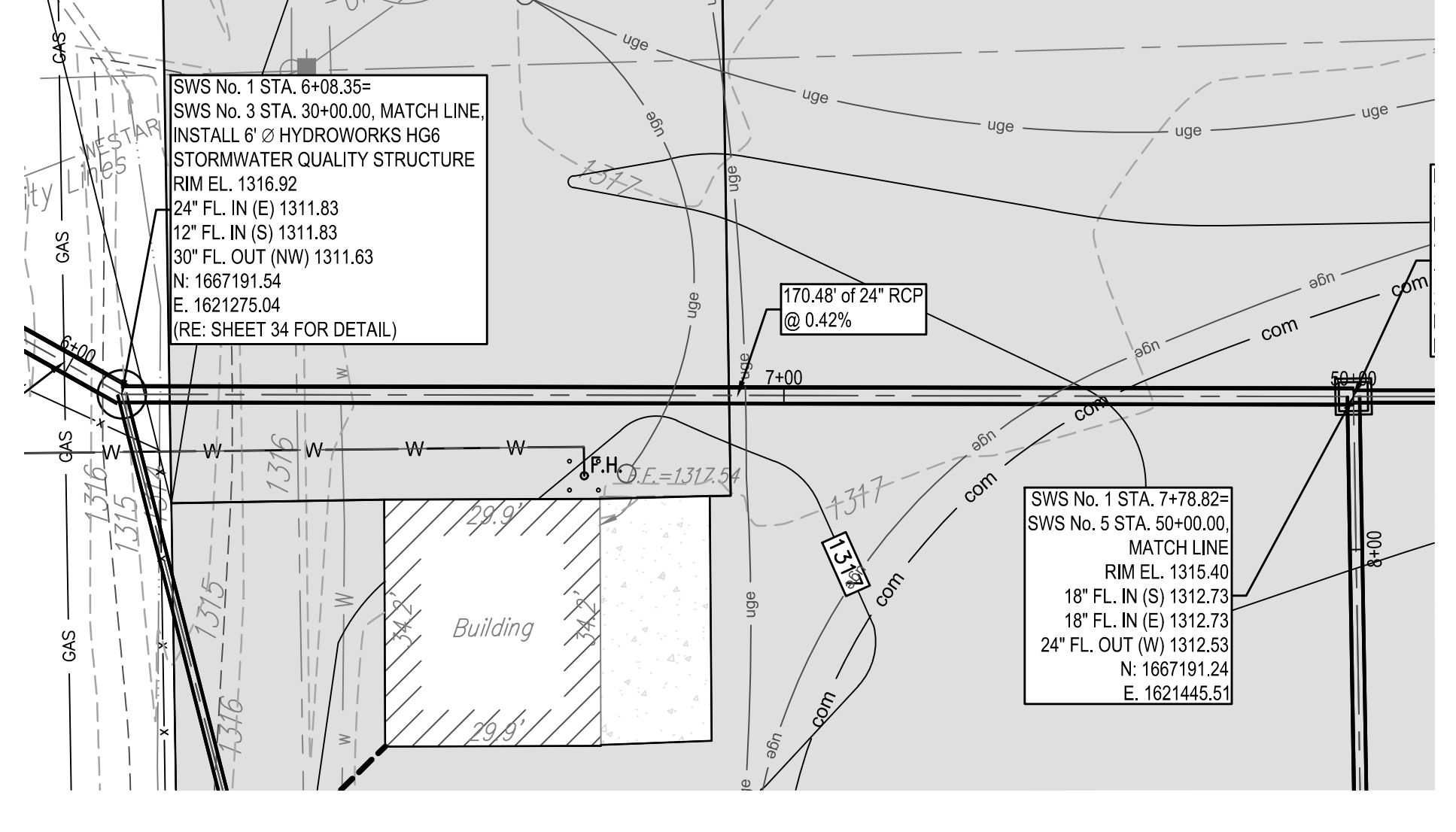
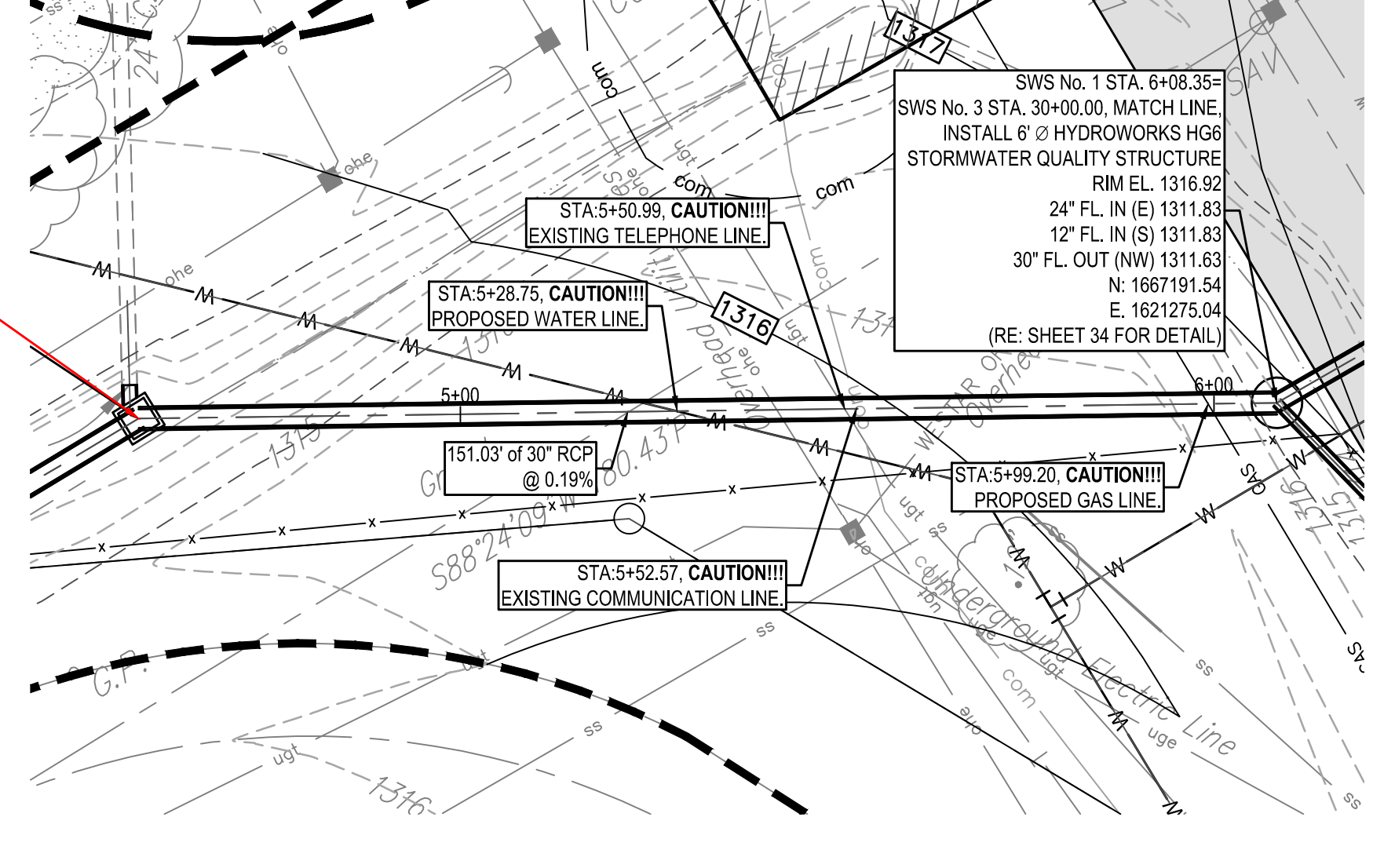
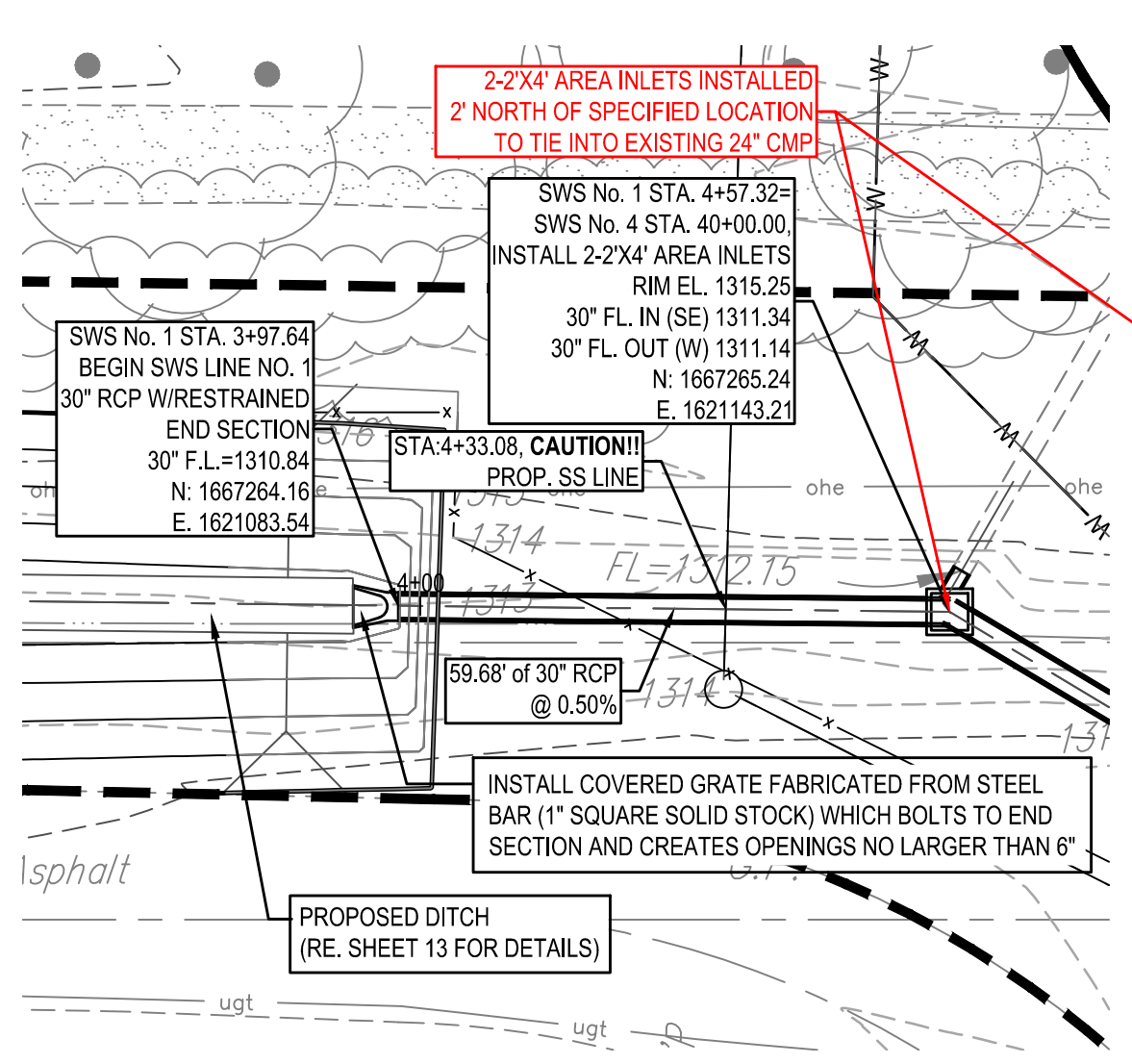
BID DRAWINGS

PROJECT NO.: 20122036  
ISSUE DATE: APRIL 2014  
CONTACT: H FORAKER  
DRAWN BY: CC, CKW | CHECKED BY: HDF

**CROSS ROAD PIPE 3**



|   |   |
|---|---|
| <b>Control Point &amp; Benchmark #1</b><br>1/2" x 24" Rebar with Savoy Plastic Cap<br>Elevation = 1312.41(NAVD88)<br>N. 1667220.8103<br>E. 1620744.7579 | <b>Control Point &amp; Benchmark #3</b><br>1/2" x 24" Rebar with Savoy Plastic Cap<br>Elevation = 1317.64(NAVD88)<br>N. 1667395.1610<br>E. 1621852.3090 |
| <b>Control Point &amp; Benchmark #2</b><br>1/2" x 24" Rebar with Savoy Plastic Cap<br>Elevation = 1315.01(NAVD88)<br>N. 1667394.2830<br>E. 1620911.7240 | <b>Control Point &amp; Benchmark #4</b><br>1/2" x 24" Rebar with Savoy Plastic Cap<br>Elevation = 1317.11(NAVD88)<br>N. 1667152.9810<br>E. 1621707.4130 |



KS: 1-800-344-7233  
WICHITA: 316-687-2470

**UTILITY RELOCATION NOTE**  
ALL UTILITY OWNERS HAVE BEEN NOTIFIED OF REQUIRED UTILITY RELOCATIONS DUE TO PROJECT IMPROVEMENTS. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITY ELEVATIONS AND COORDINATE WITH UTILITY OWNERS ON THE STATUS OF THE REQUIRED UTILITY RELOCATES AND/OR PLANS FOR RELOCATION DURING CONSTRUCTION.

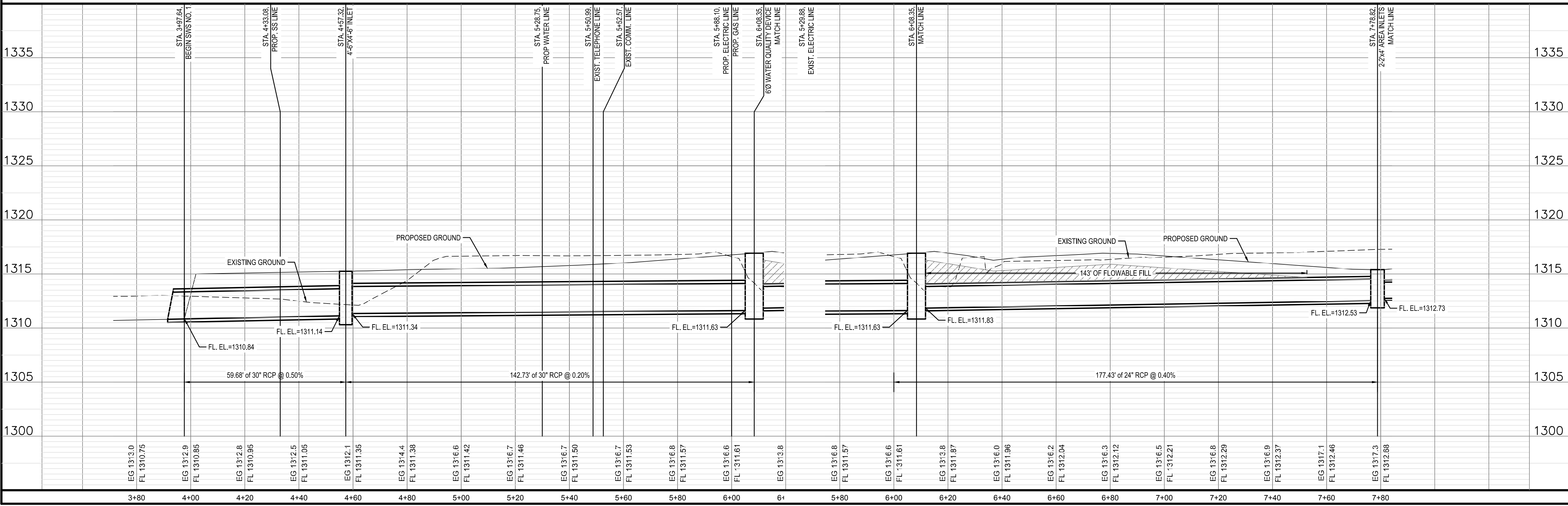
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| KANSAS GAS SERVICE        | ED KOHLER     | 01-316-832-3177 | EM:1-888-482-4950 |
| WESTAR ENERGY             | MILES CAPPIS  | 01-316-261-6824 | EM:1-888-383-1183 |
| AT&T                      | JASON EDWARDS | 01-316-268-2008 | EM:1-800-870-8390 |
| WICHITA AIRPORT AUTHORITY | DON DEARMONT  | 01-316-846-4715 |                   |
| C.O.W. WATER & SEWER      | GREG LOLLEY   | 01-316-268-4555 |                   |

**SURVEY NOTE**  
TOPOGRAPHIC SURVEY AND CONTOUR MAP USED IN PREPARING PLANS WAS PROVIDED BY SAVOY COMPANY, P.A., 433 S. HYDRAULIC, WICHITA, KS. CONTRACTOR SHALL VERIFY ELEVATIONS PRIOR TO COMMENCING CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES WHICH ARE IDENTIFIED.

- LEGEND**
- G = GAS MAIN
  - W = WATER MAIN
  - SS = SANITARY SEWER
  - SWS = STORM WATER SEWER
  - UGE = UNDER GROUND ELECTRIC
  - UGT = UNDER GROUND TELEPHONE
- B.M. . . . . . BENCH MARK
  - TELE. PED . . . . . TELEPHONE PEDESTAL
  - C.O. . . . . . CLEAN OUT
  - F.H. . . . . . FIRE HYDRANT
  - GUY ANCHOR . . . . . GUY ANCHOR
  - G.P. . . . . . GUARD POST
  - L.P. . . . . . LIGHT POLE
  - M.W. . . . . . MONITOR WELL
  - POST . . . . . POST
  - POWER POLE . . . . . POWER POLE
  - SIGN . . . . . SIGN
  - W.M. . . . . . WATER METER
  - W.V. . . . . . WATER VALVE
  - XFMR . . . . . ELECTRIC TRANSFORMER
  - C.V. . . . . . CONTROL VALVE
  - E.B. . . . . . ELECTRIC BOX
  - SWS M.H. . . . . . STORM WATER SEWER MANHOLE
  - SS M.H. . . . . . SANITARY SEWER MANHOLE
  - G.M. . . . . . GAS METER
  - G.V. . . . . . GAS VALVE
  - P.M. . . . . . PIPELINE MARKER

**SWS Line 1**

**SWS Line 1**



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AS BUILT PLANS:  
CONTRACTOR: WILDCAT CONSTRUCTION  
INSPECTOR: RANDY VOTH, C.E.D.  
PDF BY: C.C. 3-18-2015

**SOUTH MAINTENANCE  
YARD IMPROVEMENTS  
& PARKING LOT  
RECONSTRUCTION**

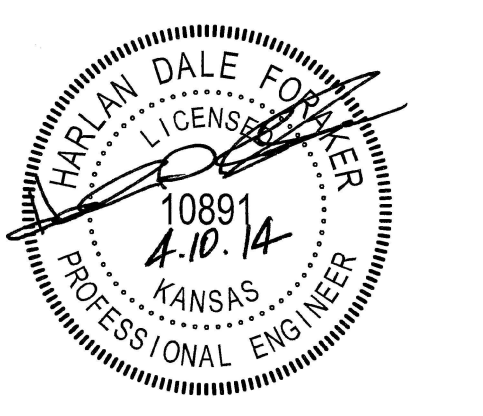
**WICHITA  
MID-CONTINENT  
AIRPORT**

SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669



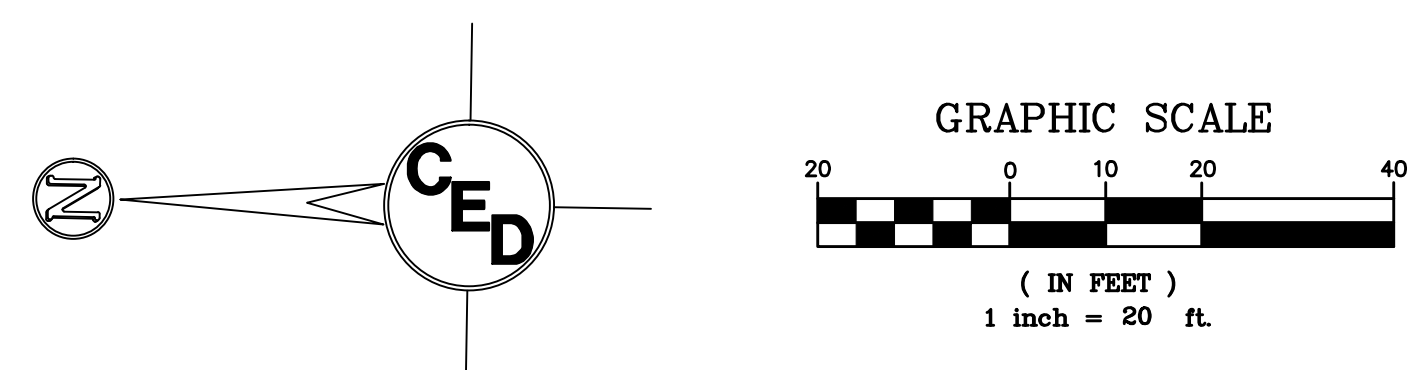
BID DRAWINGS

PROJECT NO.: 20122036  
ISSUE DATE: APRIL 2014  
CONTACT: H FORAKER  
DRAWN BY: CC, CKW | CHECKED BY: HDF

**SWS LINE NO. 1  
PLAN & PROFILE**

FILE LOCATION: S:\Drawing Files\Land Projects CC 11-17-08\WASouthMainFacility\DWG\As-Built\DWG\As-Built.dwg TAB NAME: SWS LINE 1.0 USER: cecomputers SAVED: 3/17/2015 11:51 AM PLOTTED: 3/17/2015 12:05 PM

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**Control Point & Benchmark #1**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1312.41(NAVD88)  
 N. 1667220.8103  
 E. 1620744.7579

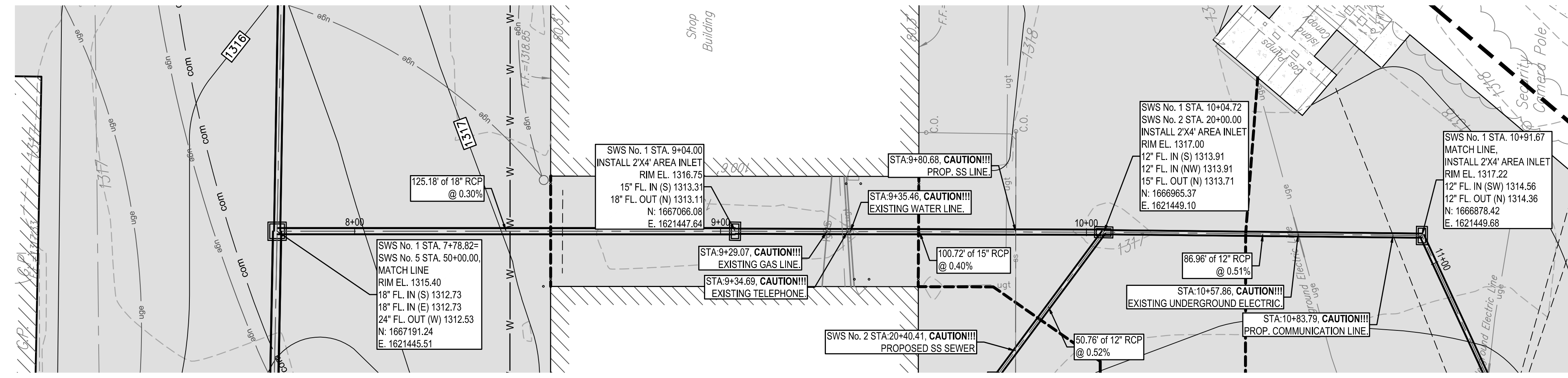
**Control Point & Benchmark #2**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1315.01(NAVD88)  
 N. 1667394.2830  
 E. 1620911.7240

**Control Point & Benchmark #3**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.64(NAVD88)  
 N. 1667395.1610  
 E. 1621852.3090

**Control Point & Benchmark #4**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.11(NAVD88)  
 N. 1667152.9810  
 E. 1621707.4130

- LEGEND**
- G = GAS MAIN
  - W = WATER MAIN
  - SS = SANITARY SEWER
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  - UGE = UNDER GROUND ELECTRIC
  - UGT = UNDER GROUND TELEPHONE
- B.M. . . . . . BENCH MARK
  - TELE. PED . . . . . TELEPHONE PEDESTAL
  - C.O. . . . . . CLEAN OUT
  - F.H. . . . . . FIRE HYDRANT
  - GUY ANCHOR
  - G.P. . . . . . GUARD POST
  - L.P. . . . . . LIGHT POLE
  - M.W. . . . . . MONITOR WELL
  - POST
  - POWER POLE
  - SIGN
  - W.M. . . . . . WATER METER
  - W.V. . . . . . WATER VALVE
  - XFMR . . . . . ELECTRIC TRANSFORMER
  - C.V. . . . . . CONTROL VALVE
  - E.B. . . . . . ELECTRIC BOX
  - SWS M.H. . . . . . STORM WATER SEWER MANHOLE
  - SS M.H. . . . . . SANITARY SEWER MANHOLE
  - G.M. . . . . . GAS METER
  - G.V. . . . . . GAS VALVE
  - P.M. . . . . . PIPELINE MARKER

AS BUILT PLANS:  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015

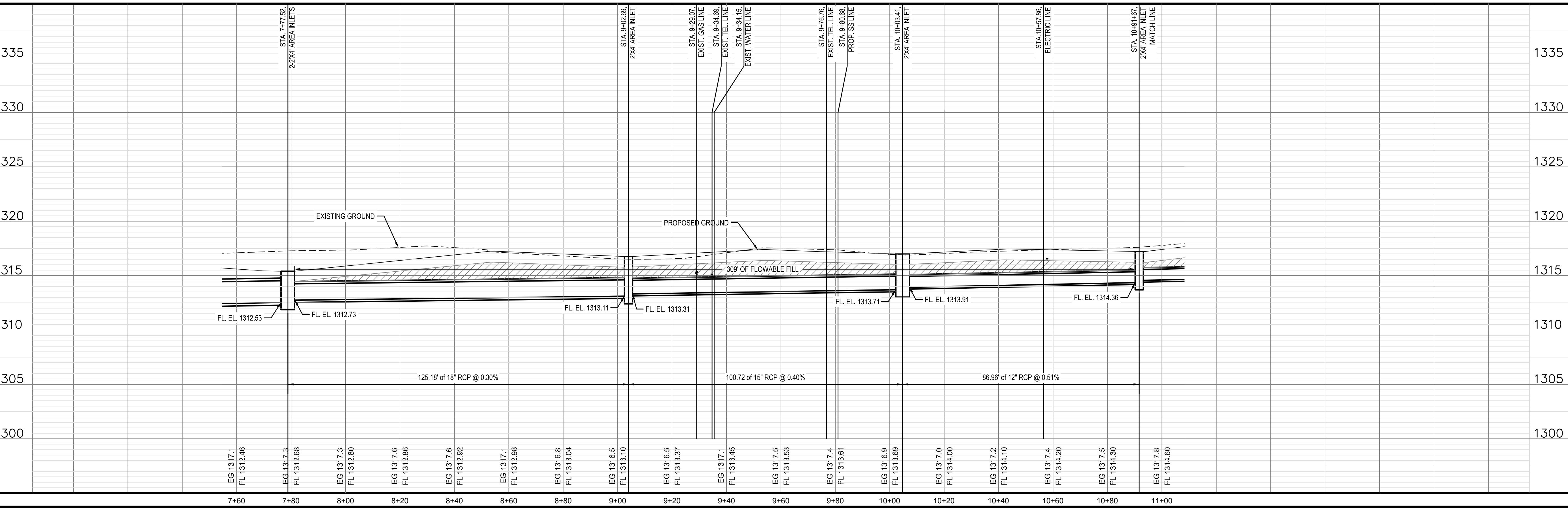


**SURVEY NOTE:**  
 TOPOGRAPHIC SURVEY AND CONTOUR MAP USED IN PREPARING PLANS WAS PROVIDED BY SAVOY COMPANY, P.A., 433 S. HYDRAULIC, WICHITA, KS. CONTRACTOR SHALL VERIFY ELEVATIONS PRIOR TO COMMENCING CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES WHICH ARE IDENTIFIED.

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|---------------------------|---------------|-----------------|-------------------|
| KANSAS GAS SERVICE        | ED KOHLER     | 01-316-832-3177 | EM:1-888-482-4950 |
| WESTAR ENERGY             | MILES CAPPS   | 01-316-261-6824 | EM:1-888-383-1183 |
| AT&T                      | JASON EDWARDS | 01-316-268-2008 | EM:1-800-870-8390 |
| WICHITA AIRPORT AUTHORITY | DON DEARMONT  | 01-316-946-4715 |                   |
| C.O.W. WATER & SEWER      | GREG LOLLEY   | 01-316-268-4555 |                   |

**SWS Line 1**



**SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION**

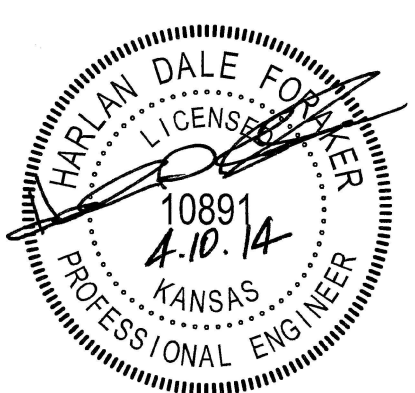
**WICHITA MID-CONTINENT AIRPORT**

SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
 CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
 WICHITA, KANSAS 67213  
 PH.(316)262-8808 FAX.(316)262-1669



BID DRAWINGS

PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, CKW | CHECKED BY: HDF

**SWS LINE NO. 1 PLAN & PROFILE**

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AS BUILT PLANS:  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015

**Control Point & Benchmark #1**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1312.41(NAVD88)  
 N. 1667220.8103  
 E. 1620744.7579

**Control Point & Benchmark #2**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1315.01(NAVD88)  
 N. 1667394.2830  
 E. 1620911.7240

**Control Point & Benchmark #3**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.64(NAVD88)  
 N. 1667393.1610  
 E. 1621852.3090

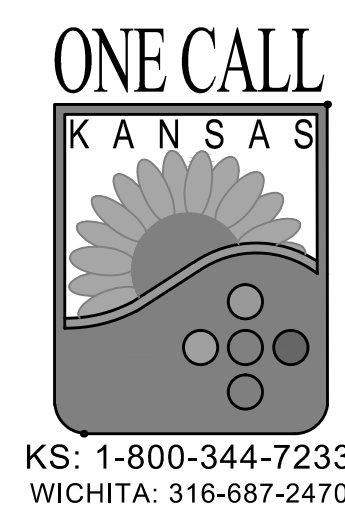
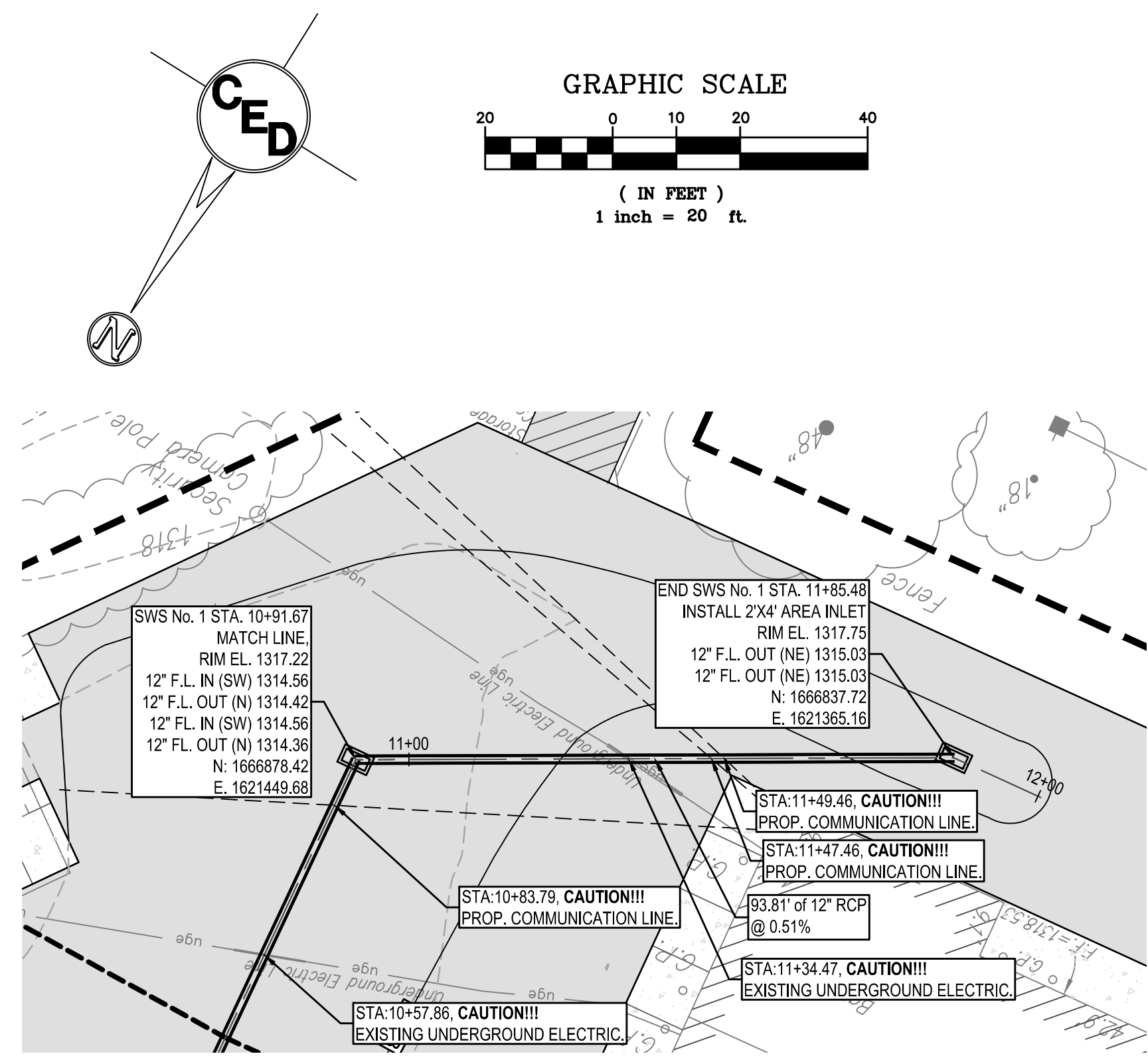
**Control Point & Benchmark #4**  
 1/2" x 24" Rebar with Savoy Plastic Cap  
 Elevation = 1317.11(NAVD88)  
 N. 1667152.9810  
 E. 1621707.4130

- LEGEND**
- G = GAS MAIN
  - W = WATER MAIN
  - SS = SANITARY SEWER
  - SWS = STORM WATER SEWER
  - UGE = UNDER GROUND ELECTRIC
  - UGT = UNDER GROUND TELEPHONE
- ⊙ B.M. . . . . . BENCH MARK
  - ⊙ TELE. PED . . . . . TELEPHONE PEDESTAL
  - ⊙ C.O. . . . . . CLEAN OUT
  - ⊙ F.H. . . . . . FIRE HYDRANT
  - ← . . . . . GUY ANCHOR
  - ⊙ G.P. . . . . . GUARD POST
  - ⊙ L.P. . . . . . LIGHT POLE
  - ⊙ M.W. . . . . . MONITOR WELL
  - ⊙ . . . . . POST
  - . . . . . POWER POLE
  - ⊙ . . . . . SIGN
  - ⊙ W.M. . . . . . WATER METER
  - ⊙ W.V. . . . . . WATER VALVE
  - ⊙ XTMR . . . . . ELECTRIC TRANSFORMER
  - ⊙ C.V. . . . . . CONTROL VALVE
  - ⊙ E.B. . . . . . ELECTRIC BOX
  - ⊙ SWS M.H. . . . . . STORM WATER SEWER MANHOLE
  - ⊙ SS M.H. . . . . . SANITARY SEWER MANHOLE
  - ⊙ G.M. . . . . . GAS METER
  - ⊙ G.V. . . . . . GAS VALVE
  - ⊙ P.M. . . . . . PIPELINE MARKER

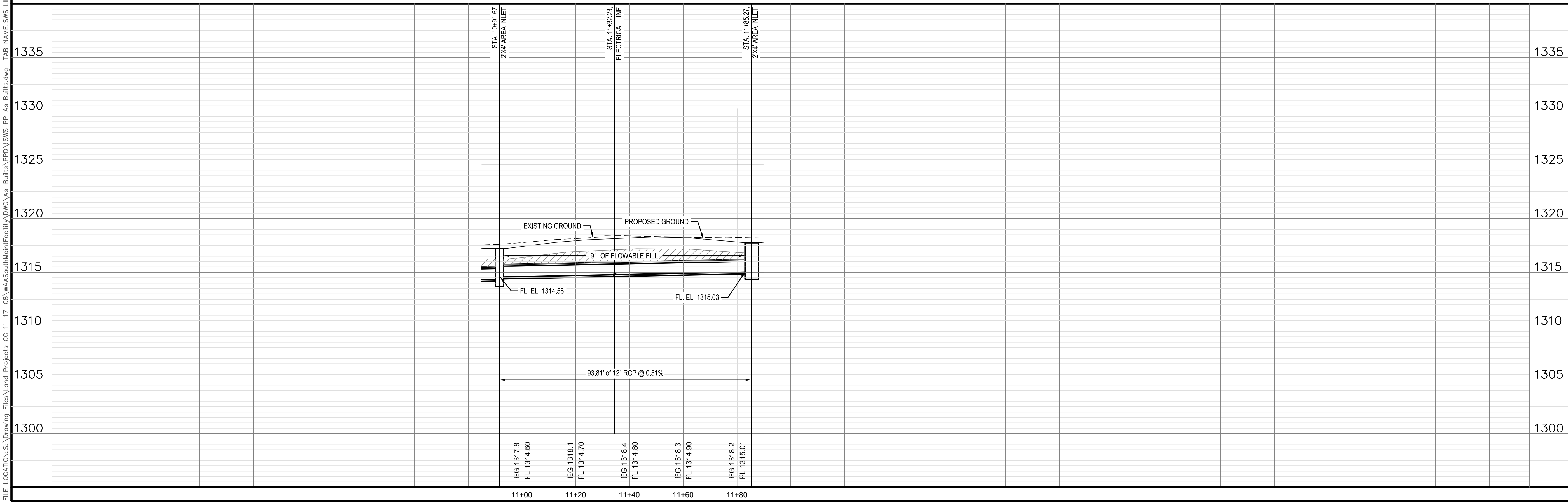
**SURVEY NOTE:**  
 TOPOGRAPHIC SURVEY AND CONTOUR MAP USED IN PREPARING PLANS WAS PROVIDED BY SAVOY COMPANY, P.A., 433 S. HYDRAULIC, WICHITA, KS. CONTRACTOR SHALL VERIFY ELEVATIONS PRIOR TO COMMENCING CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES WHICH ARE IDENTIFIED.

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|                           |               |                  |                   |
|---------------------------|---------------|------------------|-------------------|
| KANSAS GAS SERVICE        | ED KOHLER     | 0-1-316-832-3177 | EM-1-888-482-4950 |
| WESTAR ENERGY             | MILES CAPPIS  | 0-1-316-261-6824 | EM-1-888-383-1183 |
| AT&T                      | JASON EDWARDS | 0-1-316-268-2008 | EM-1-800-870-8390 |
| WICHITA AIRPORT AUTHORITY | DON DEARMONT  | 0-1-316-948-4715 |                   |
| C.O.W. WATER & SEWER      | GREG LOLLEY   | 0-1-316-268-4555 |                   |



**SWS Line 1**



CERTIFIED ENGINEERING DESIGN, P.A.  
 CIVIL ENGINEERING SERVICES

1935 WEST MAPLE STREET  
 WICHITA, KANSAS 67213  
 PH.(316)262-8808 FAX.(316)262-1669

BID DRAWINGS

PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, CKW | CHECKED BY: HDF

**SWS LINE NO. 1  
 PLAN & PROFILE**

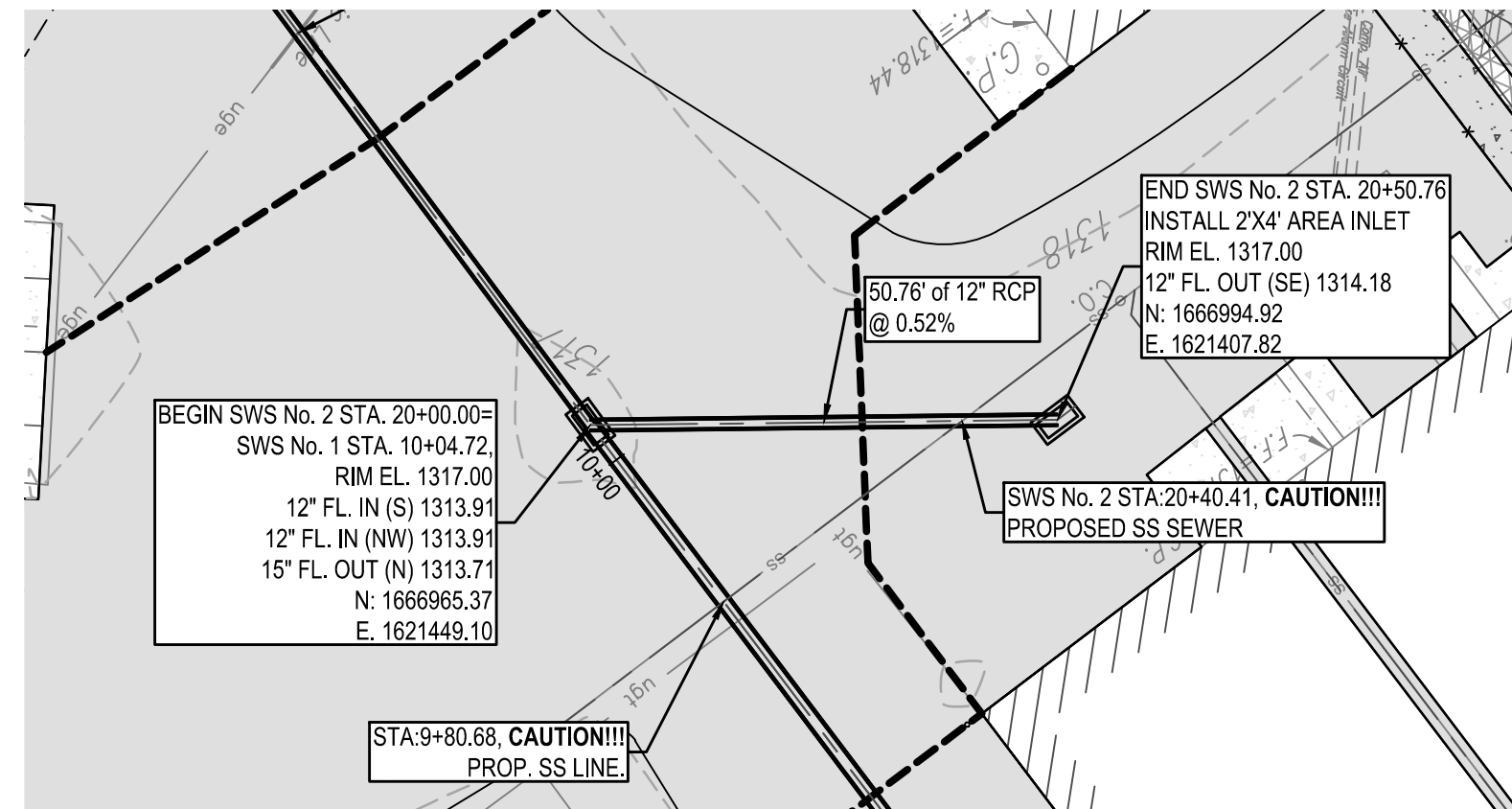
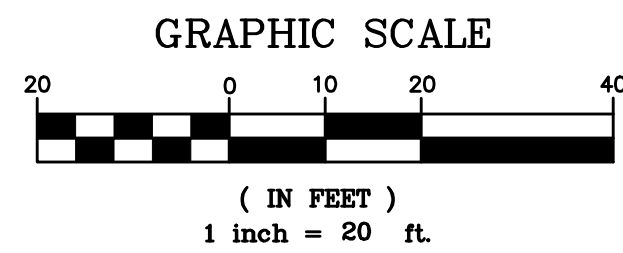
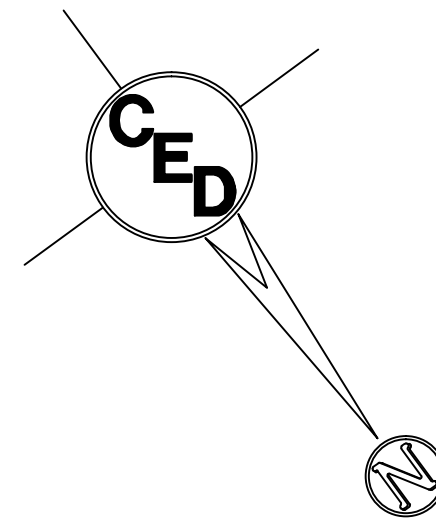
18 OF 34

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KS: 1-800-344-7233  
WICHITA: 316-687-2470



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|---|---|
| <b>Control Point &amp; Benchmark #1</b><br>1/2" x 24" Rebar with Savoy Plastic Cap<br>Elevation = 1312.41(NAVD88)<br>N. 1667220.8103<br>E. 1620744.7579 | <b>Control Point &amp; Benchmark #3</b><br>1/2" x 24" Rebar with Savoy Plastic Cap<br>Elevation = 1317.64(NAVD88)<br>N. 1667395.1610<br>E. 1621852.3090 |
| <b>Control Point &amp; Benchmark #2</b><br>1/2" x 24" Rebar with Savoy Plastic Cap<br>Elevation = 1315.01(NAVD88)<br>N. 1667394.2830<br>E. 1620911.7240 | <b>Control Point &amp; Benchmark #4</b><br>1/2" x 24" Rebar with Savoy Plastic Cap<br>Elevation = 1317.11(NAVD88)<br>N. 1667152.9810<br>E. 1621707.4130 |

- LEGEND**
- G = GAS MAIN
  - W = WATER MAIN
  - SS = SANITARY SEWER
  - SWS = STORM WATER SEWER
  - UGE = UNDER GROUND ELECTRIC
  - UGT = UNDER GROUND TELEPHONE
- ⊙ B.M. . . . . . BENCH MARK
  - TELE. PED . . . . . TELEPHONE PEDESTAL
  - C.O. . . . . . CLEAN OUT
  - F.H. . . . . . FIRE HYDRANT
  - ← . . . . . GUY ANCHOR
  - ° G.P. . . . . . GUARD POST
  - L.P. . . . . . LIGHT POLE
  - M.W. . . . . . MONITOR WELL
  - . . . . . POST
  - . . . . . POWER POLE
  - . . . . . SIGN
  - W.M. . . . . . WATER METER
  - W.V. . . . . . WATER VALVE
  - XFMR . . . . . ELECTRIC TRANSFORMER
  - C.V. . . . . . CONTROL VALVE
  - E.B. . . . . . ELECTRIC BOX
  - SWS M.H. . . . . . STORM WATER SEWER MANHOLE
  - SS M.H. . . . . . SANITARY SEWER MANHOLE
  - G.M. . . . . . GAS METER
  - G.V. . . . . . GAS VALVE
  - P.M. . . . . . PIPELINE MARKER

**SURVEY NOTE:**  
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|                           |               |                  |                   |
|---------------------------|---------------|------------------|-------------------|
| KANSAS GAS SERVICE        | ED KOHLER     | 0-1-316-832-3177 | EM-1-888-482-4950 |
| WESTAR ENERGY             | MILES CAPPS   | 0-1-316-261-6824 | EM-1-888-383-1183 |
| AT&T                      | JASON EDWARDS | 0-1-316-268-2008 | EM-1-800-870-9390 |
| WICHITA AIRPORT AUTHORITY | DON DEARMONT  | 0-1-316-946-4715 |                   |
| C.O.W. WATER & SEWER      | GREG LOLLEY   | 0-1-316-268-4555 |                   |

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AS BUILT PLANS:  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015

**SOUTH MAINTENANCE  
 YARD IMPROVEMENTS  
 & PARKING LOT  
 RECONSTRUCTION**

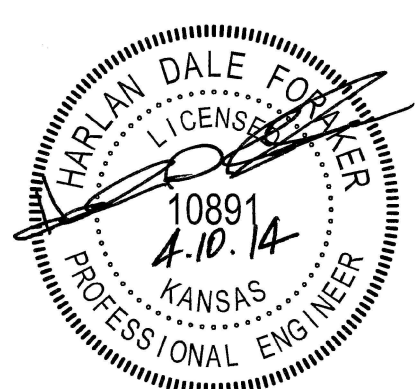
**WICHITA  
 MID-CONTINENT  
 AIRPORT**

SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
 CIVIL ENGINEERING SERVICES



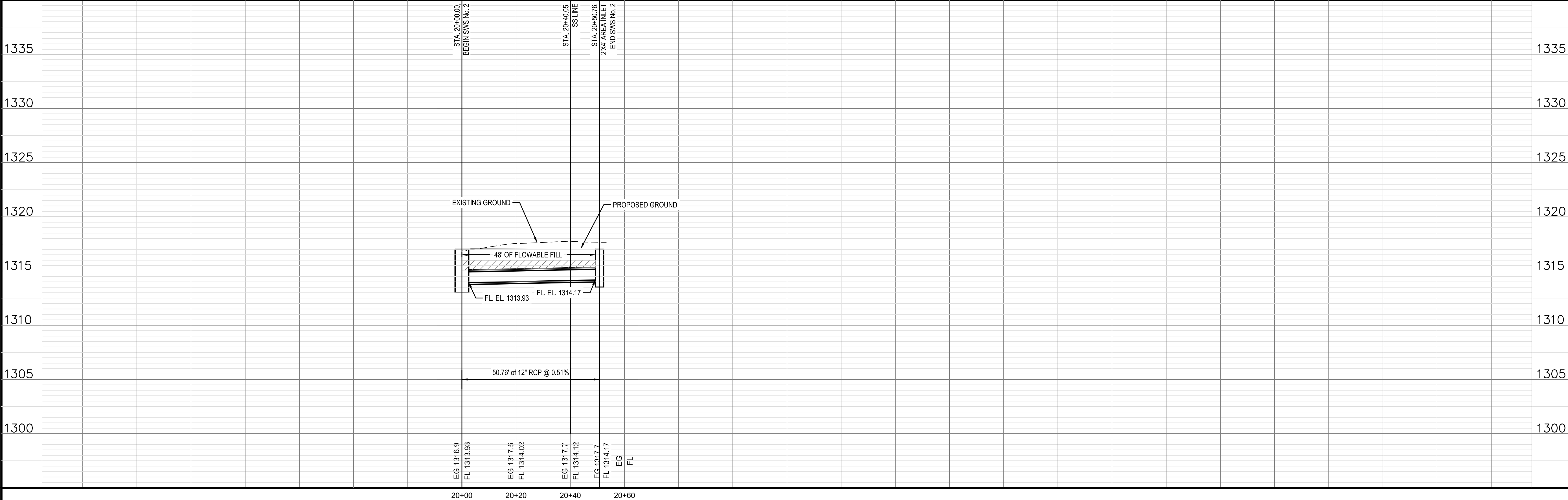
1935 WEST MAPLE STREET  
 WICHITA, KANSAS 67213  
 PH.(316)262-8808 FAX.(316)262-1669



BID DRAWINGS

PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, CKW | CHECKED BY: HDF

**SWS LINE NO. 2  
 PLAN & PROFILE**



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AS BUILT PLANS:  
CONTRACTOR: WILDCAT CONSTRUCTION  
INSPECTOR: RANDY VOTH, C.E.D.  
PDF BY: C.C. 3-18-2015

**Control Point & Benchmark #1**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1312.41(NAVD88)  
N. 1667220.8103  
E. 1620744.7579

**Control Point & Benchmark #2**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1315.01(NAVD88)  
N. 1667394.2830  
E. 1620911.7240

**Control Point & Benchmark #3**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1317.64(NAVD88)  
N. 1667395.1610  
E. 1621852.3090

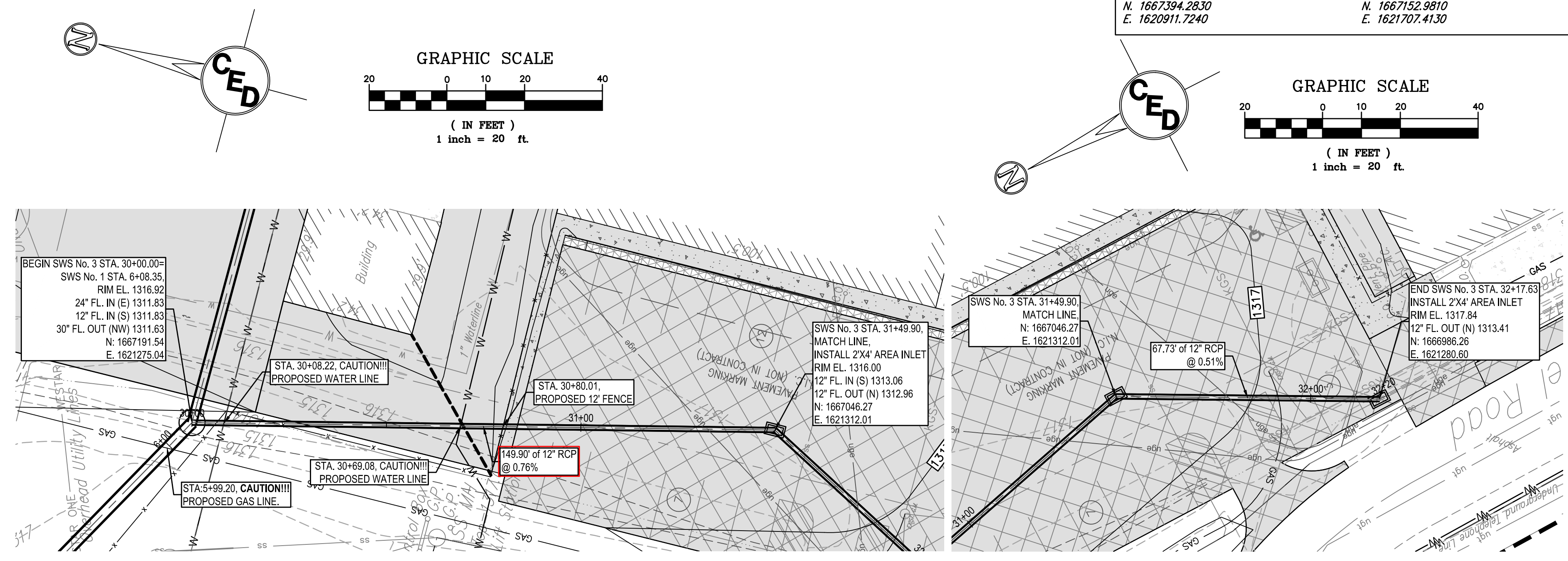
**Control Point & Benchmark #4**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1317.11(NAVD88)  
N. 1667152.9810  
E. 1621707.4130

- LEGEND**
- G = GAS MAIN
  - W = WATER MAIN
  - SS = SANITARY SEWER
  - SWS = STORM WATER SEWER
  - UGE = UNDER GROUND ELECTRIC
  - UGT = UNDER GROUND TELEPHONE
- B.M. . . . . . BENCH MARK
  - TELE. PED. . . . . TELEPHONE PEDESTAL
  - C.O. . . . . CLEAN OUT
  - F.H. . . . . FIRE HYDRANT
  - GUY ANCHOR . . . . . GUY ANCHOR
  - G.P. . . . . GUARD POST
  - L.P. . . . . LIGHT POLE
  - M.W. . . . . MONITOR WELL
  - POST . . . . . POST
  - POWER POLE . . . . . POWER POLE
  - SIGN . . . . . SIGN
  - W.M. . . . . WATER METER
  - W.V. . . . . WATER VALVE
  - XTMR . . . . . ELECTRIC TRANSFORMER
  - C.V. . . . . CONTROL VALVE
  - E.B. . . . . ELECTRIC BOX
  - SWS M.H. . . . . STORM WATER SEWER MANHOLE
  - SS M.H. . . . . SANITARY SEWER MANHOLE
  - G.M. . . . . GAS METER
  - G.V. . . . . GAS VALVE
  - P.M. . . . . PIPELINE MARKER

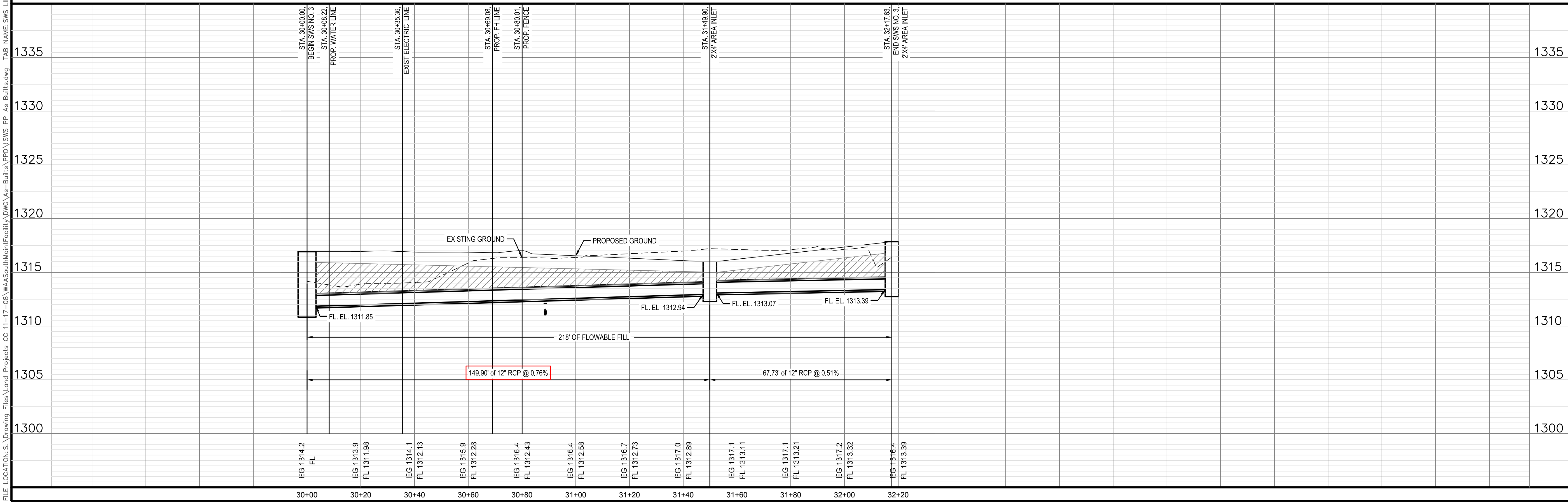
**SURVEY NOTE:**  
TOPOGRAPHIC SURVEY AND CONTOUR MAP USED IN PREPARING PLANS WAS PROVIDED BY SAVOY COMPANY, P.A., 433 S. HYDRAULIC, WICHITA, KS. CONTRACTOR SHALL VERIFY ELEVATIONS PRIOR TO COMMENCING CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES WHICH ARE IDENTIFIED.

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|                           |               |                 |                   |
|---------------------------|---------------|-----------------|-------------------|
| KANSAS GAS SERVICE        | ED KOHLER     | 01-316-832-3177 | EM-1-888-482-4950 |
| WESTAR ENERGY             | MILES CAPPIS  | 01-316-261-6824 | EM-1-888-383-1183 |
| AT&T                      | JASON EDWARDS | 01-316-288-2008 | EM-1-800-870-8390 |
| WICHITA AIRPORT AUTHORITY | DON DEARMONT  | 01-316-946-4715 |                   |
| C.O.W. WATER & SEWER      | GREG LOLLEY   | 01-316-268-4555 |                   |



**SWS Line 3**



**SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION**

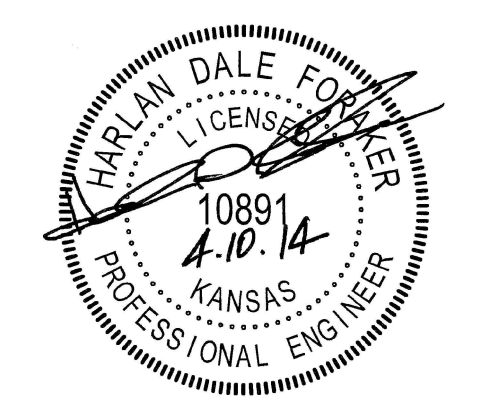
**WICHITA MID-CONTINENT AIRPORT**

SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669



BID DRAWINGS

PROJECT NO.: 20122036  
ISSUE DATE: APRIL 2014  
CONTACT: H FORAKER  
DRAWN BY: CC, CKW | CHECKED BY: HDF

**SWS LINE NO. 3  
PLAN & PROFILE**

FILE LOCATION: S:\Drawing Files\Land Projects CC 11-17-08\WASouthMainFacility\DWG\As-Built\DWG As-Built.dwg TAB NAME: SWS LINE NO. 3 PLAN & PROFILE USER: cecmantes SAVER: 3/17/2015 11:51 AM PLOTTED: 3/17/2015 12:06 PM

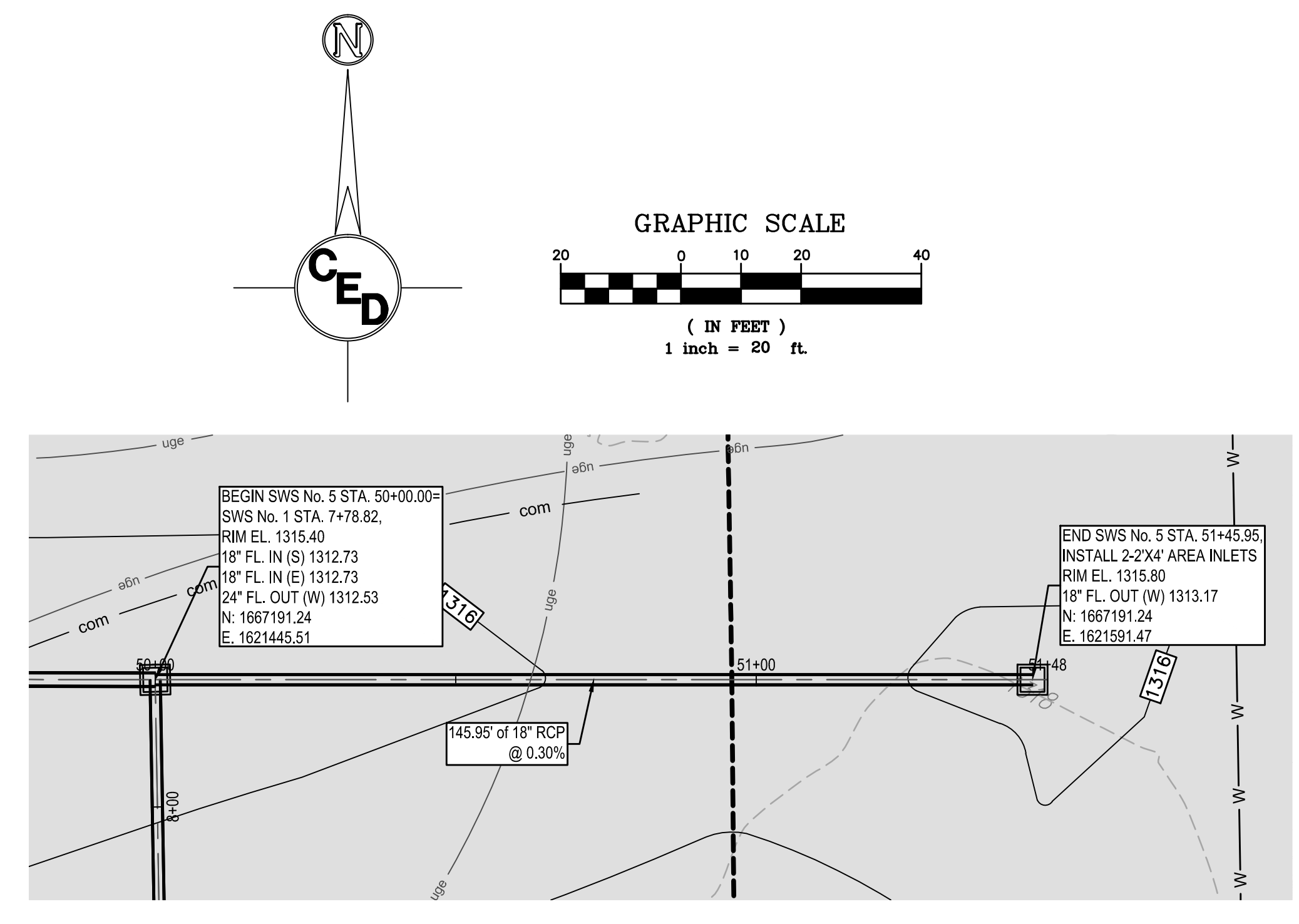
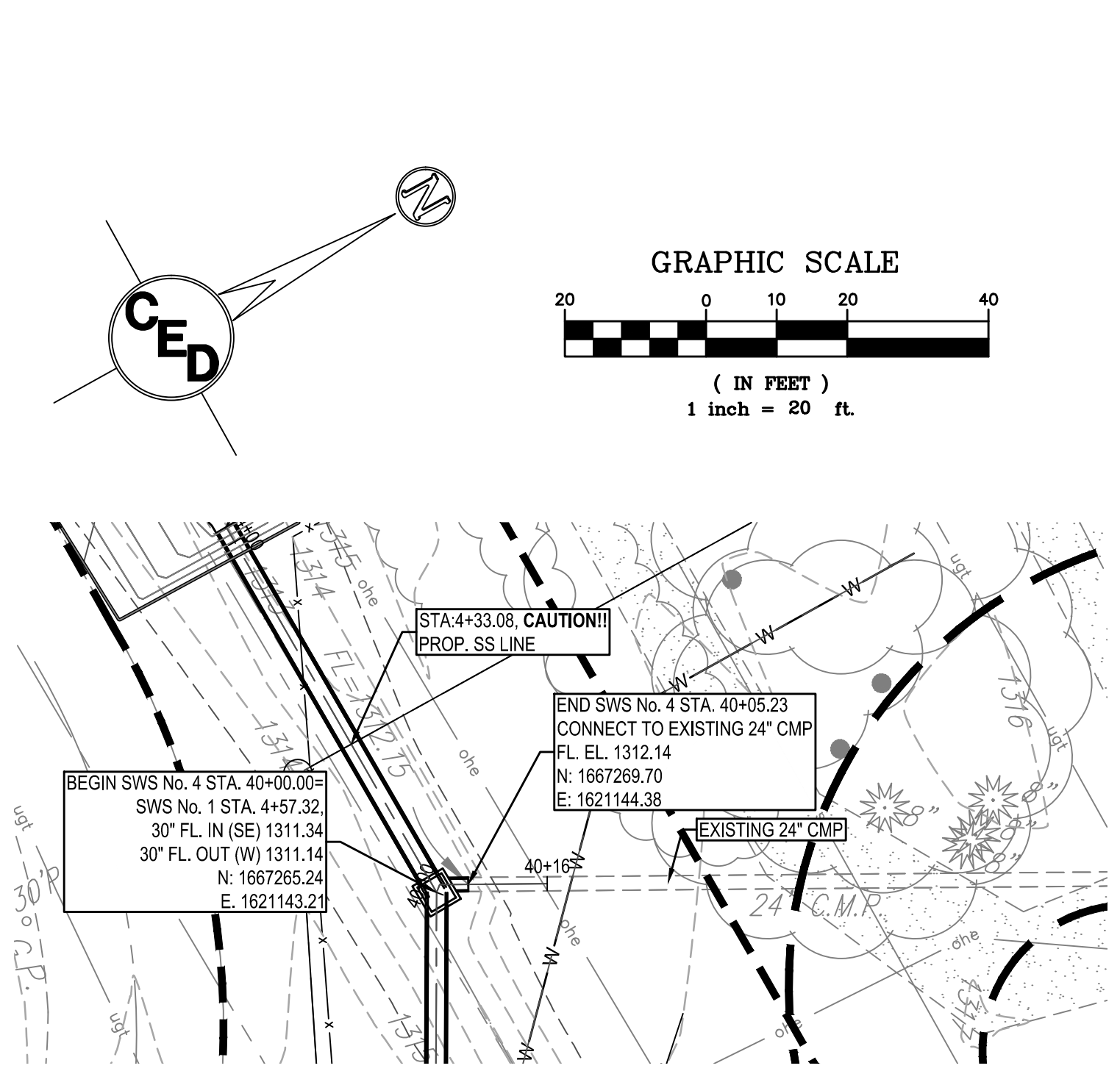
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AS BUILT PLANS:  
CONTRACTOR: WILDCAT CONSTRUCTION  
INSPECTOR: RANDY VOITH, C.E.D.  
PDF BY: C.C. 3-18-2015

FILE LOCATION: S:\Drawing Files\Land Projects CC 11-17-08\WASouthMainFacility\DWG\As-Built\PPD\SWS PP As-Built.dwg TAB NAME: SWS LINE NO. 4 & 5 PLAN & PROFILE USER: cecronanias SAVED: 3/17/2015 11:51 AM PLOTTED: 3/17/2015 12:06 PM



KS: 1-800-344-7233  
WICHITA: 316-687-2470



- LEGEND**
- G = GAS MAIN
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  - F.H. . . . . . FIRE HYDRANT
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  - G.P. . . . . . GUARD POST
  - L.P. . . . . . LIGHT POLE
  - M.W. . . . . . MONITOR WELL
  - POST
  - POWER POLE
  - SIGN
  - W.M. . . . . . WATER METER
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  - SS M.H. . . . . . SANITARY SEWER MANHOLE
  - G.M. . . . . . GAS METER
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**Control Point & Benchmark #1**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1312.41(NAVD88)  
N. 1667220.8103  
E. 1620744.7579

**Control Point & Benchmark #2**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1315.01(NAVD88)  
N. 1667394.2830  
E. 1620911.7240

**Control Point & Benchmark #3**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1317.64(NAVD88)  
N. 1667395.1610  
E. 1621852.3090

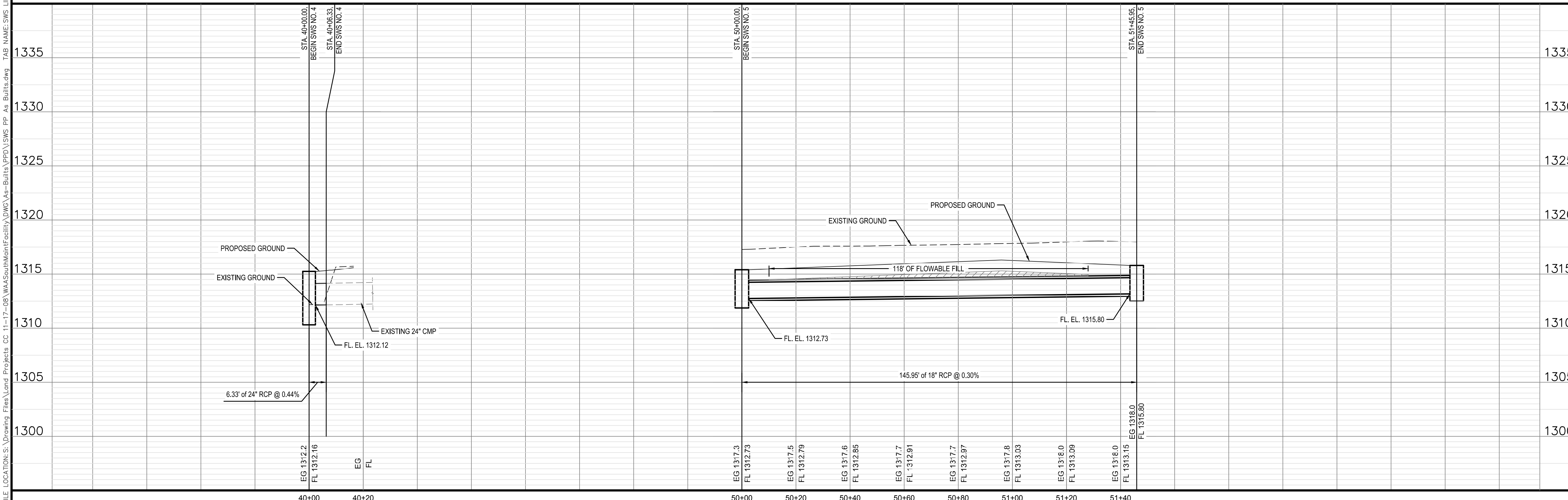
**Control Point & Benchmark #4**  
1/2" x 24" Rebar with Savoy Plastic Cap  
Elevation = 1317.11(NAVD88)  
N. 1667152.9810  
E. 1621707.4130

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|                           |               |                  |                   |
|---------------------------|---------------|------------------|-------------------|
| KANSAS GAS SERVICE        | ED KOHLER     | 0-1-316-832-3177 | EM-1-888-482-4950 |
| WESTAR ENERGY             | MILES CAPPS   | 0-1-316-261-8824 | EM-1-888-383-1183 |
| AT&T                      | JASON EDWARDS | 0-1-316-268-2008 | EM-1-800-870-8390 |
| WICHITA AIRPORT AUTHORITY | DON DEARMONT  | 0-1-316-946-4715 |                   |
| C.O.W. WATER & SEWER      | GREG LOLLEY   | 0-1-316-268-4555 |                   |

**SWS Line 4**

**SWS Line 5**



**SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION**

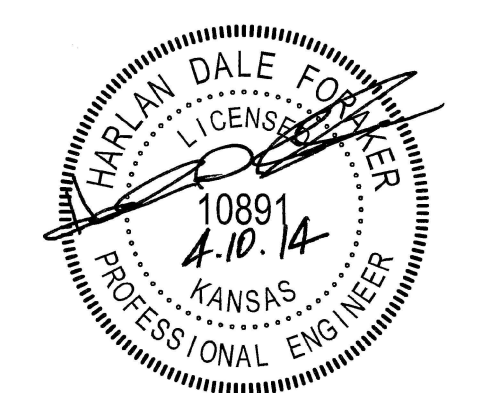
**WICHITA MID-CONTINENT AIRPORT**

SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669

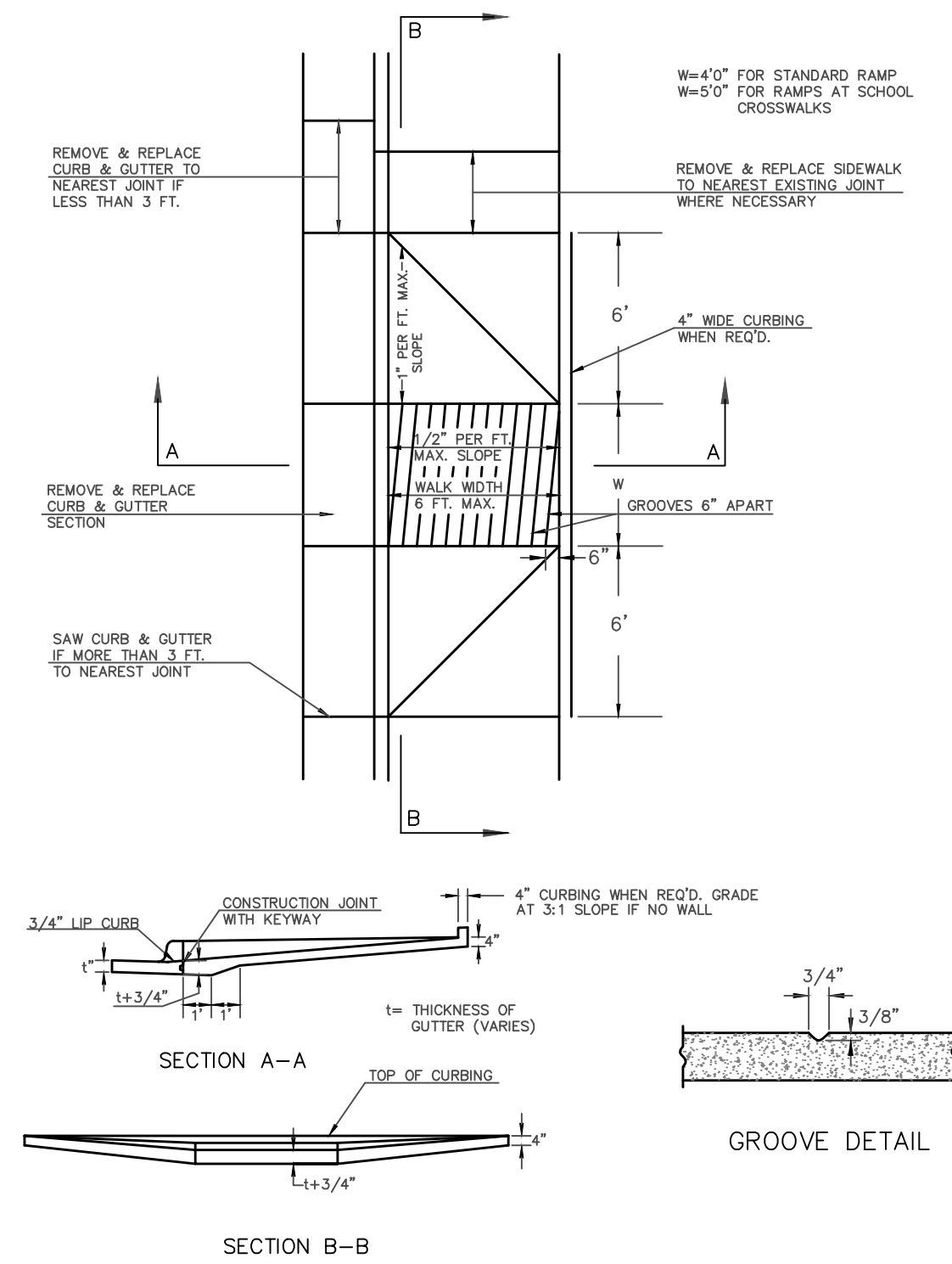


BID DRAWINGS

PROJECT NO.: 20122036  
ISSUE DATE: APRIL 2014  
CONTACT: H FORAKER  
DRAWN BY: CC, CKW | CHECKED BY: HDF

**SWS LINE NO. 4 & 5 PLAN & PROFILE**

**STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR  
STREETS WITH COMBINED CURB & GUTTER AND FULL WALK  
(TYPE B)**



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AS BUILT PLANS:  
CONTRACTOR: WILDCAT CONSTRUCTION  
INSPECTOR: RANDY VOITH, C.E.D.  
PDF BY: C.C. 3-18-2015

**SOUTH MAINTENANCE  
YARD IMPROVEMENTS  
& PARKING LOT  
RECONSTRUCTION**

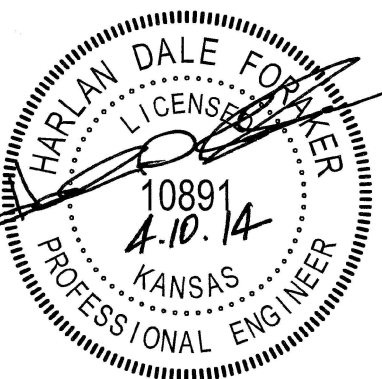
**WICHITA  
MID-CONTINENT  
AIRPORT**

SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669

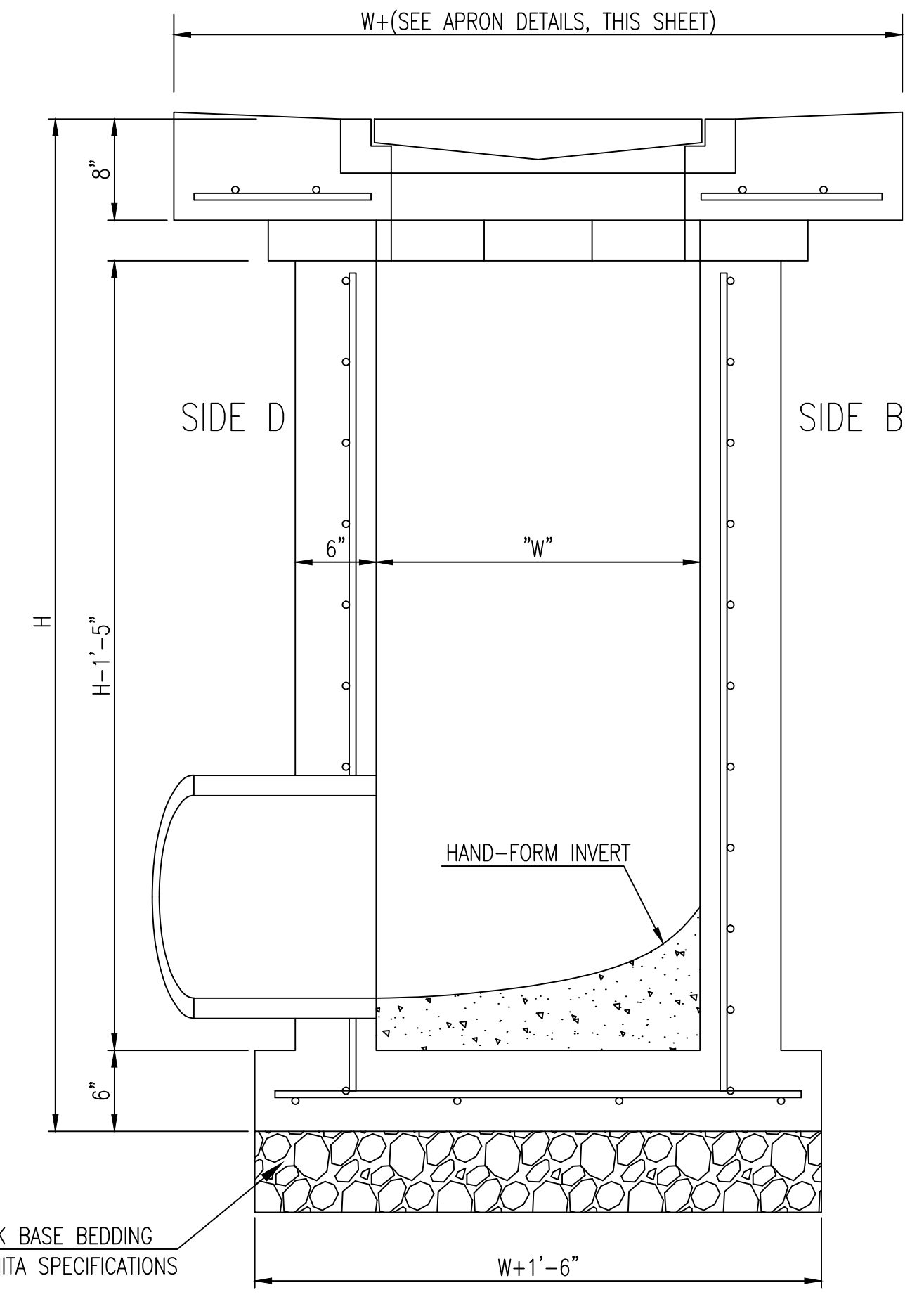
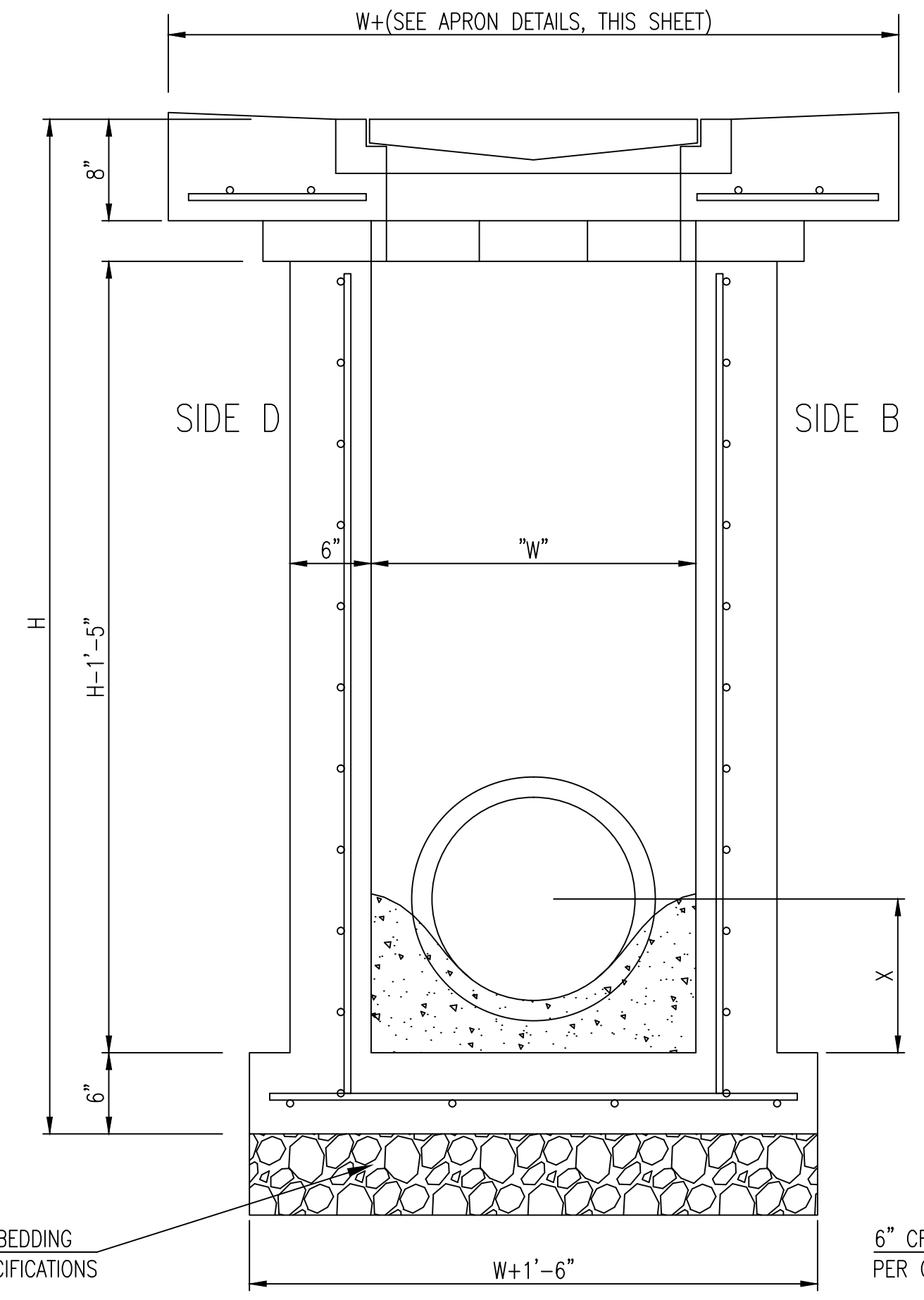
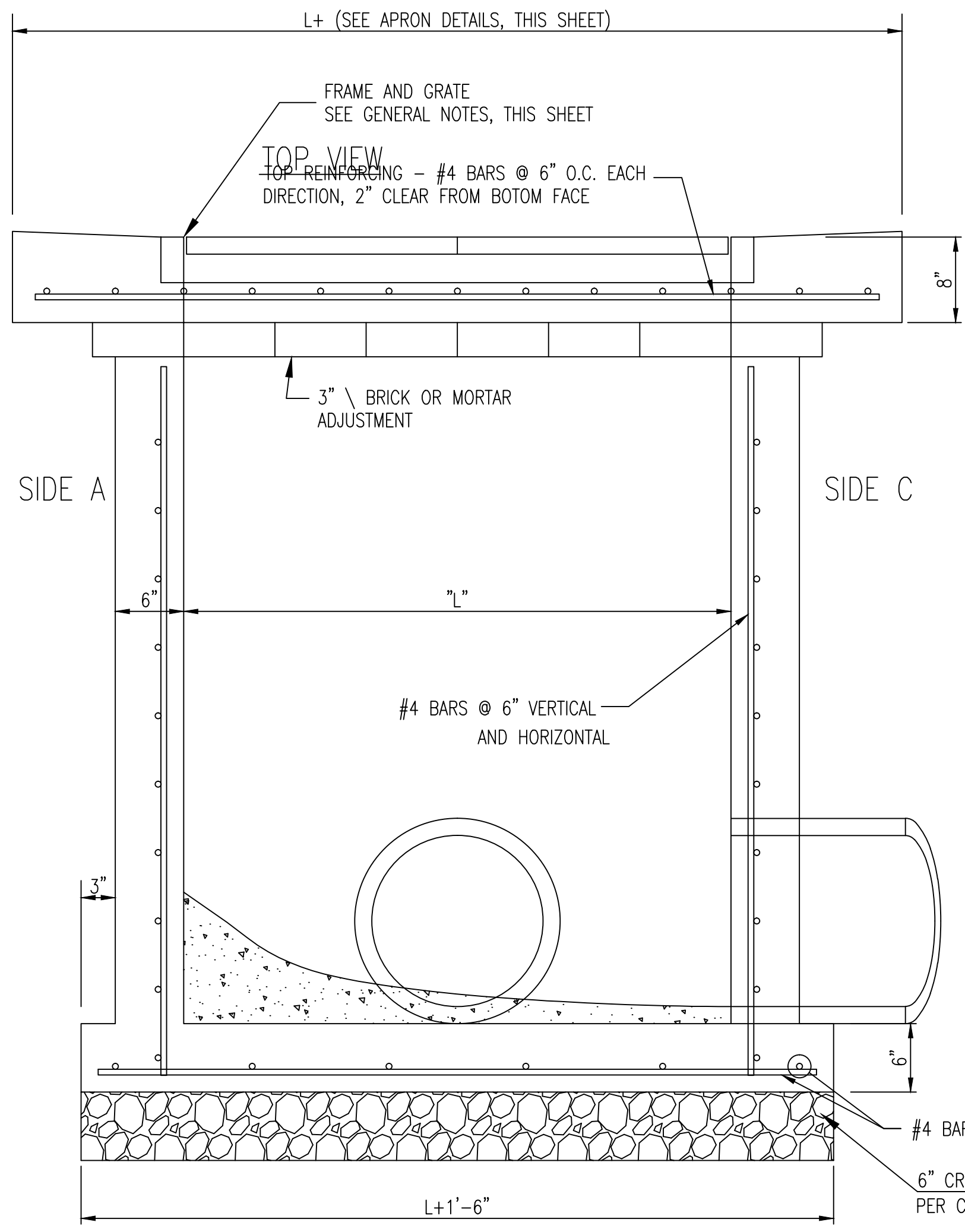
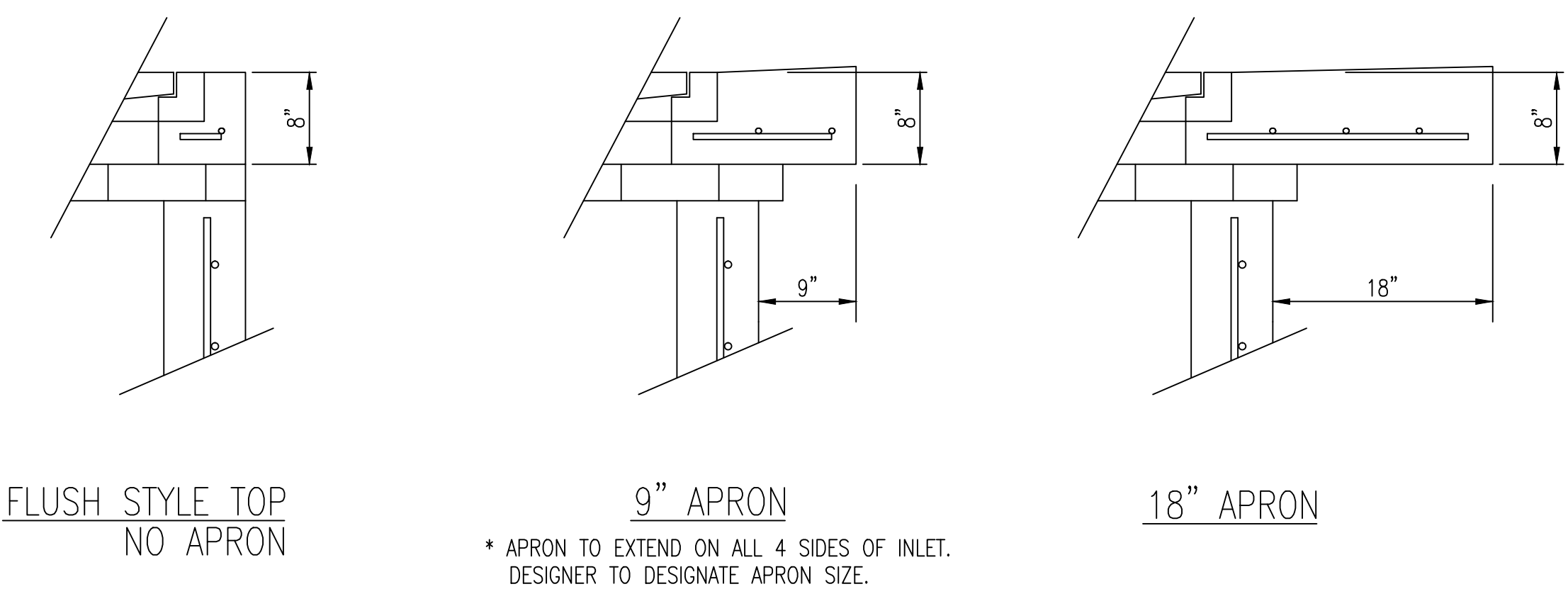
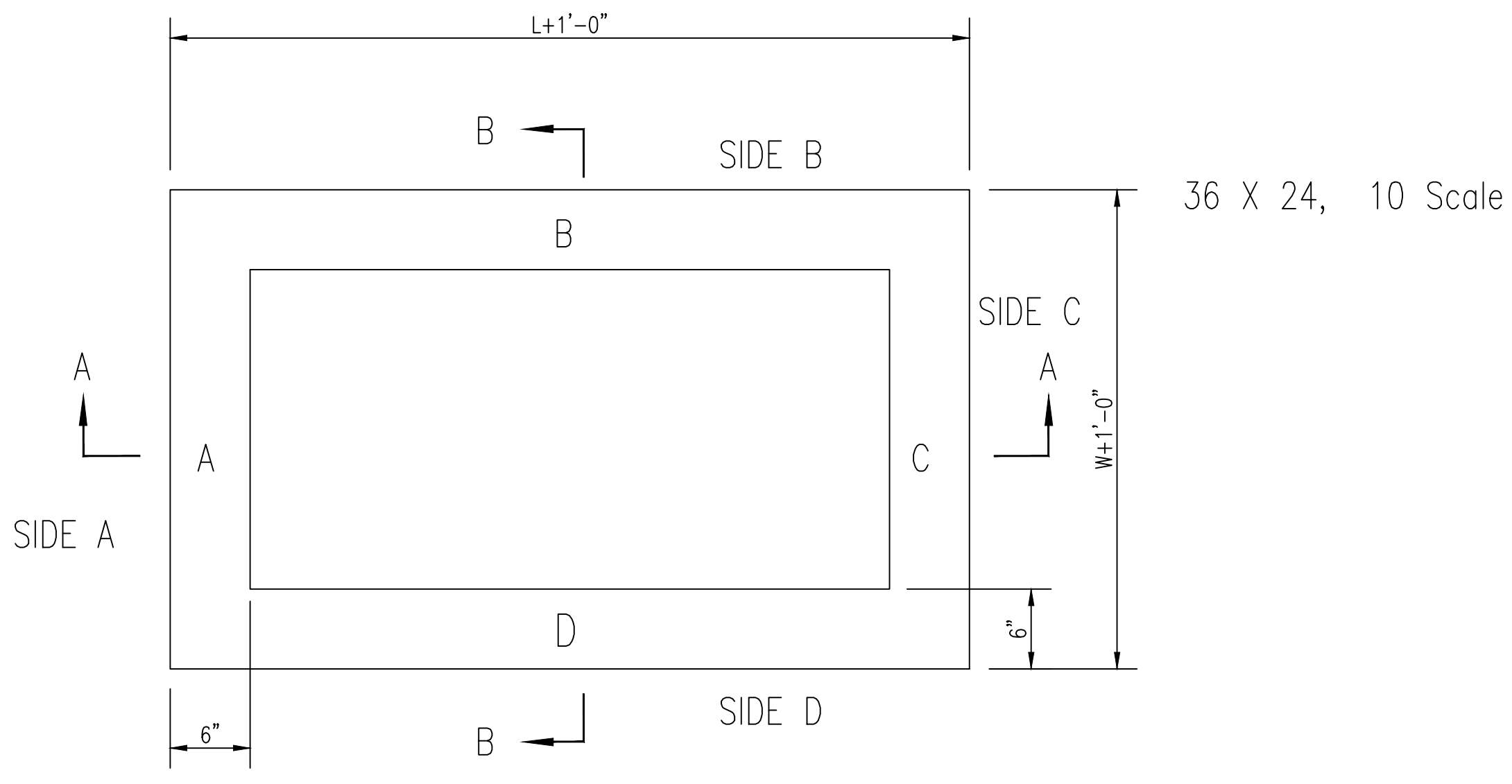


BID DRAWINGS

PROJECT NO.: 20122036  
ISSUE DATE: APRIL 2014  
CONTACT: H FORAKER  
DRAWN BY: CC, CKW | CHECKED BY: HDF

**ADA DETAILS**

FILE LOCATION: S:\Drawing Files\Land Projects CC 11-17-08\WASouthMainFacility\DWG\As-Built\Misc. Site Details As-Built.dwg TAB NAME: SINGLE-DOUBLE DROP INLET USER: cecventes SAVED: 3/17/2015 11:52 AM PLOTTED: 3/17/2015 12:07 PM



W=2' and L=2' for SINGLE DROP INLET  
 W=2' and L=4' for DOUBLE DROP INLET

The structure(s) on this detail sheet are designed for HS-20 loading at these specific dimensions only. If larger dimensions are required, the ENGINEER shall provide a project specific structure design for approval by the City Engineer's office.

- GENERAL NOTES**
- GRATE FRAME TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
  - INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
  - THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
  - INLET FRAME AND GRATE TO BE DEETER #2433, EJIW #5391-Z1 OR APPROVED EQUAL FOR 2'x2' SINGLE DROP INLET AND DEETER #2434, EJIW #5391 Z3 OR APPROVED EQUAL FOR 2'x4' DOUBLE DROP INLET.
  - CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN INLET WALL SHALL BE GROUTED FLUSH TO THE INLET WALL WITH HYDRAULIC CEMENT AFTER THE INLET IS IN PLACE. LIFTING HOLES THRU THE INLET WALL WILL NOT BE ACCEPTED.



|  |            |                 |
|--|------------|-----------------|
| <b>SINGLE/DOUBLE DROP INLET</b>  |            |                 |
| CITY ENGINEER<br><b>GARY JANZEN, P.E.</b>  |            |                 |
| PROJECT NUMBER   | OCA NUMBER | DATE            |
|  |            | 11/2010         |
| CITY ENGINEER'S OFFICE<br>CITY HALL - SEVENTH FLOOR<br>455 NORTH MAIN STREET<br>WICHITA, KANSAS 67202-1620<br>(316) 268-4501 |            | SHEET<br>_ of _ |

REVISED 05/10/2011 - GJ

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AS BUILT PLANS:  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015

**SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION**

**WICHITA MID-CONTINENT AIRPORT**

SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
 CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
 WICHITA, KANSAS 67213  
 PH.(316)262-8808 FAX.(316)262-1669

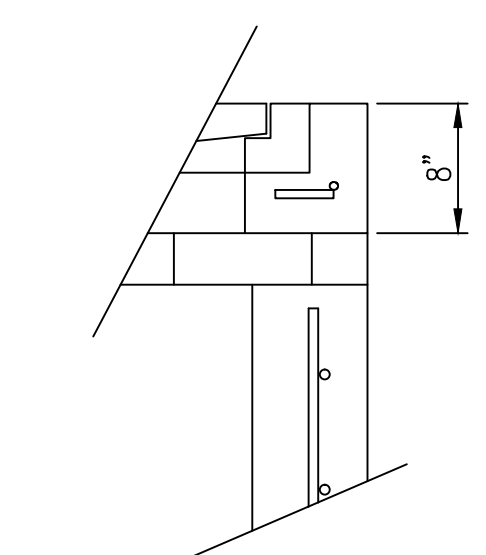
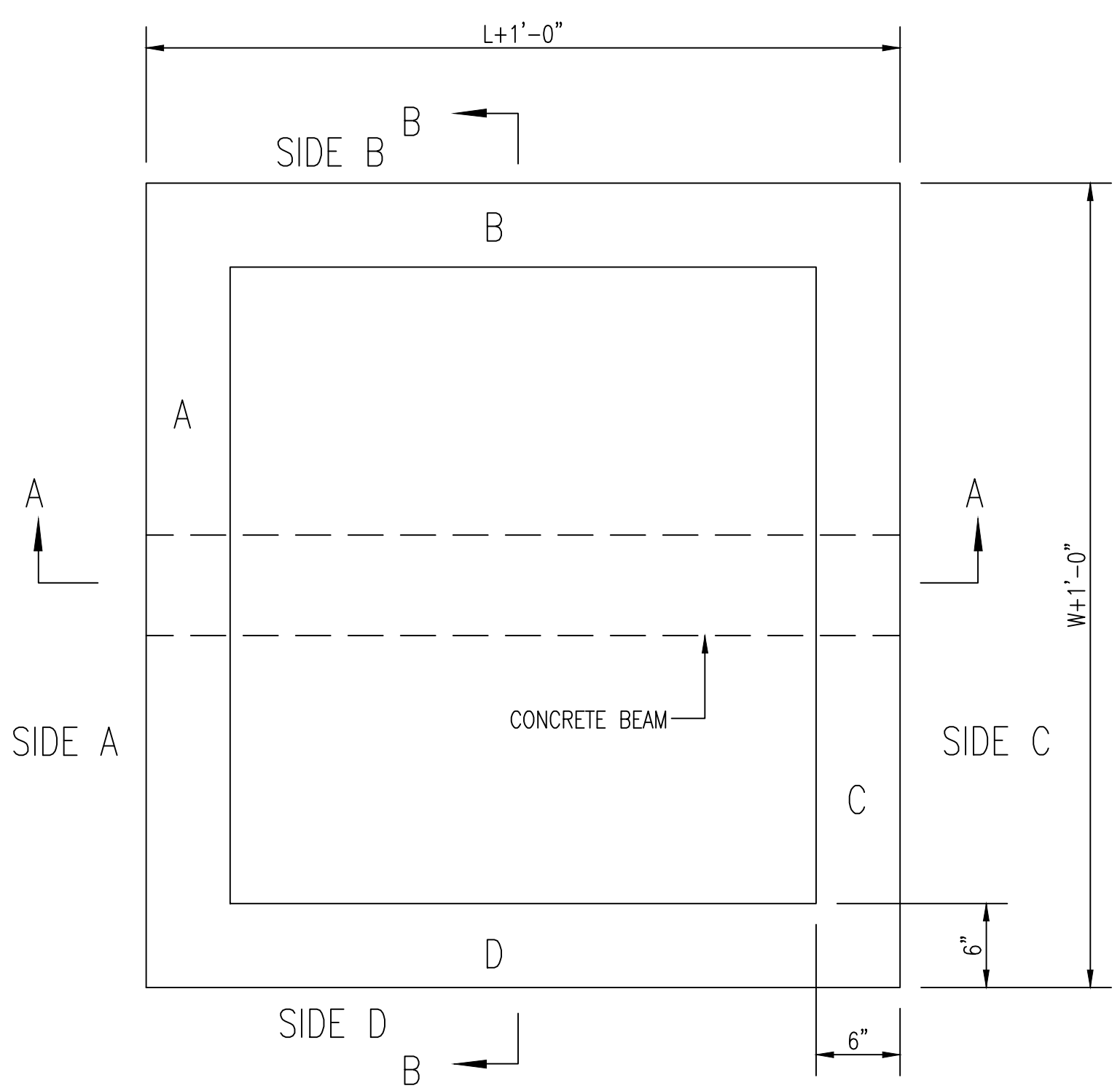


**BID DRAWINGS**

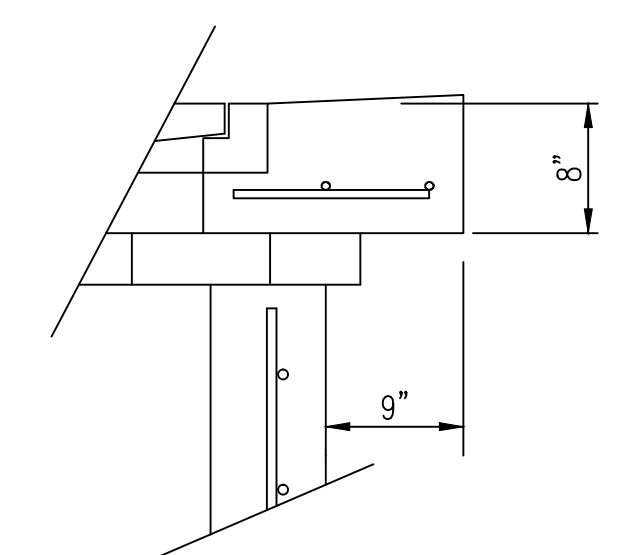
PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, CKW | CHECKED BY: HDF

**SINGLE-DOUBLE DROP INLET**

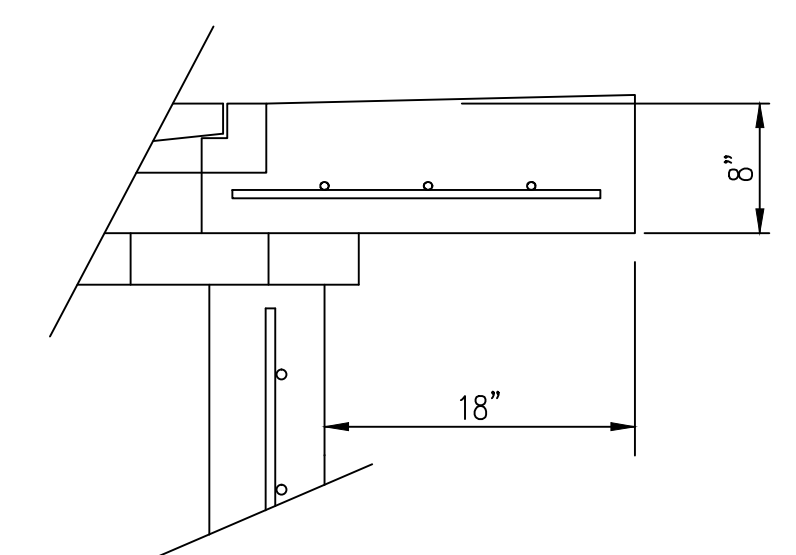
FILE LOCATION: S:\Drawing Files\Land Projects CC 11-17-08\WASouthMainFacility\DWG\As-Built\Misc. Site Details As-Built.dwg TAB NAME: DOUBLE-DROP INLET USER: cecronites SAV: 03/17/2015 11:52 AM PLOTTED: 03/17/2015 12:07 PM



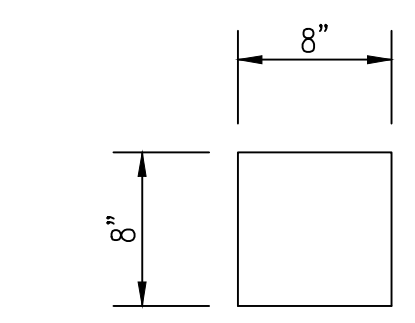
FLUSH STYLE TOP  
NO APRON



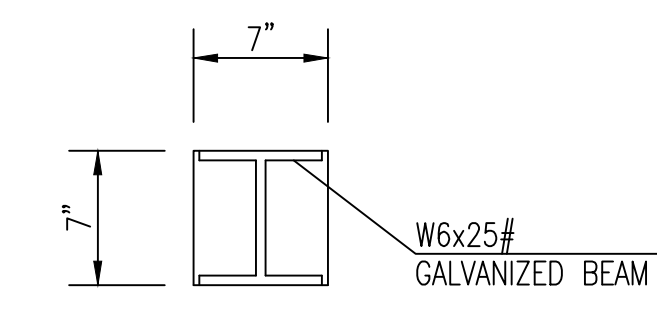
9" APRON  
\* APRON TO EXTEND ON ALL 4 SIDES OF INLET.  
DESIGNER TO DESIGNATE APRON SIZE.



18" APRON

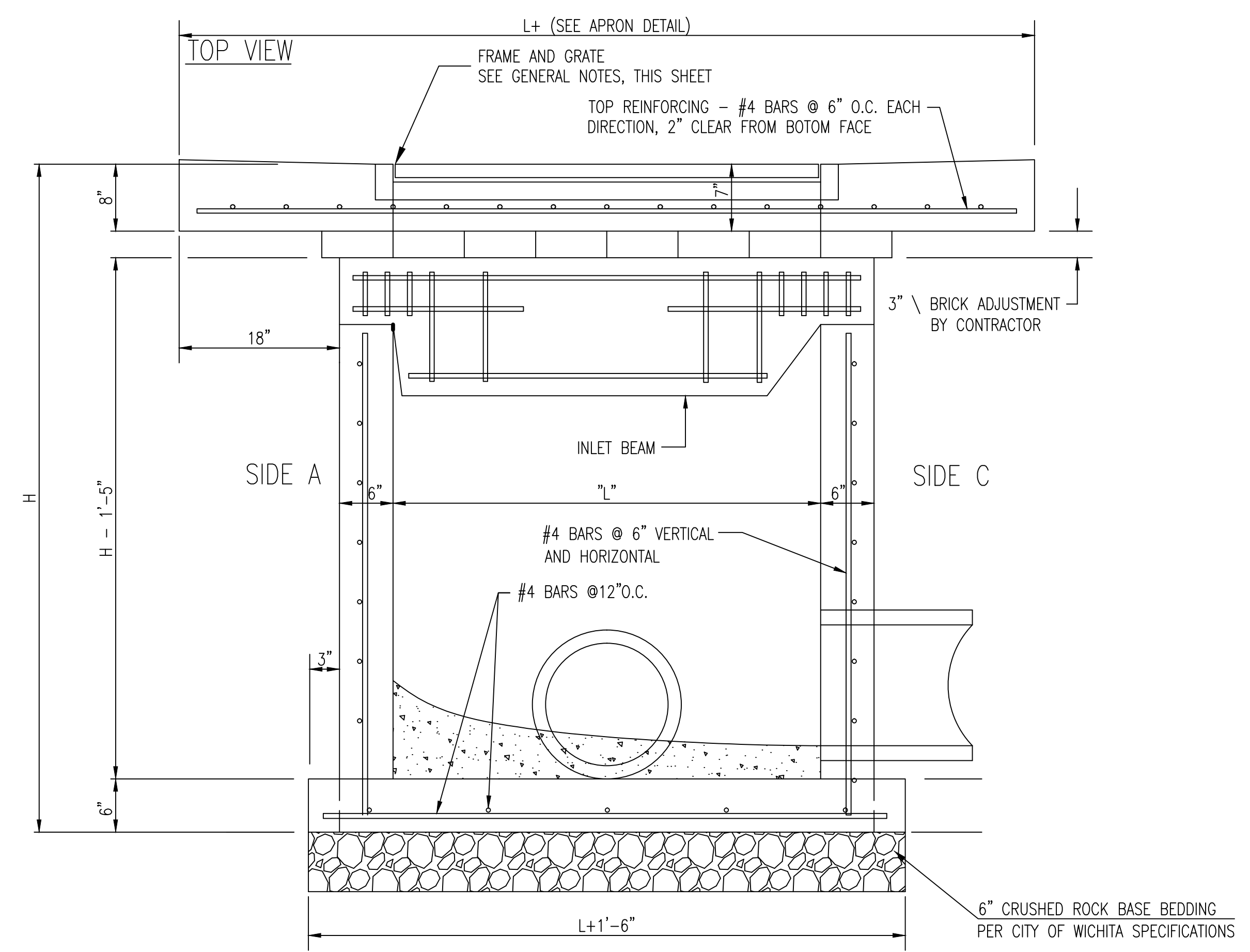


CONCRETE BEAM POCKET

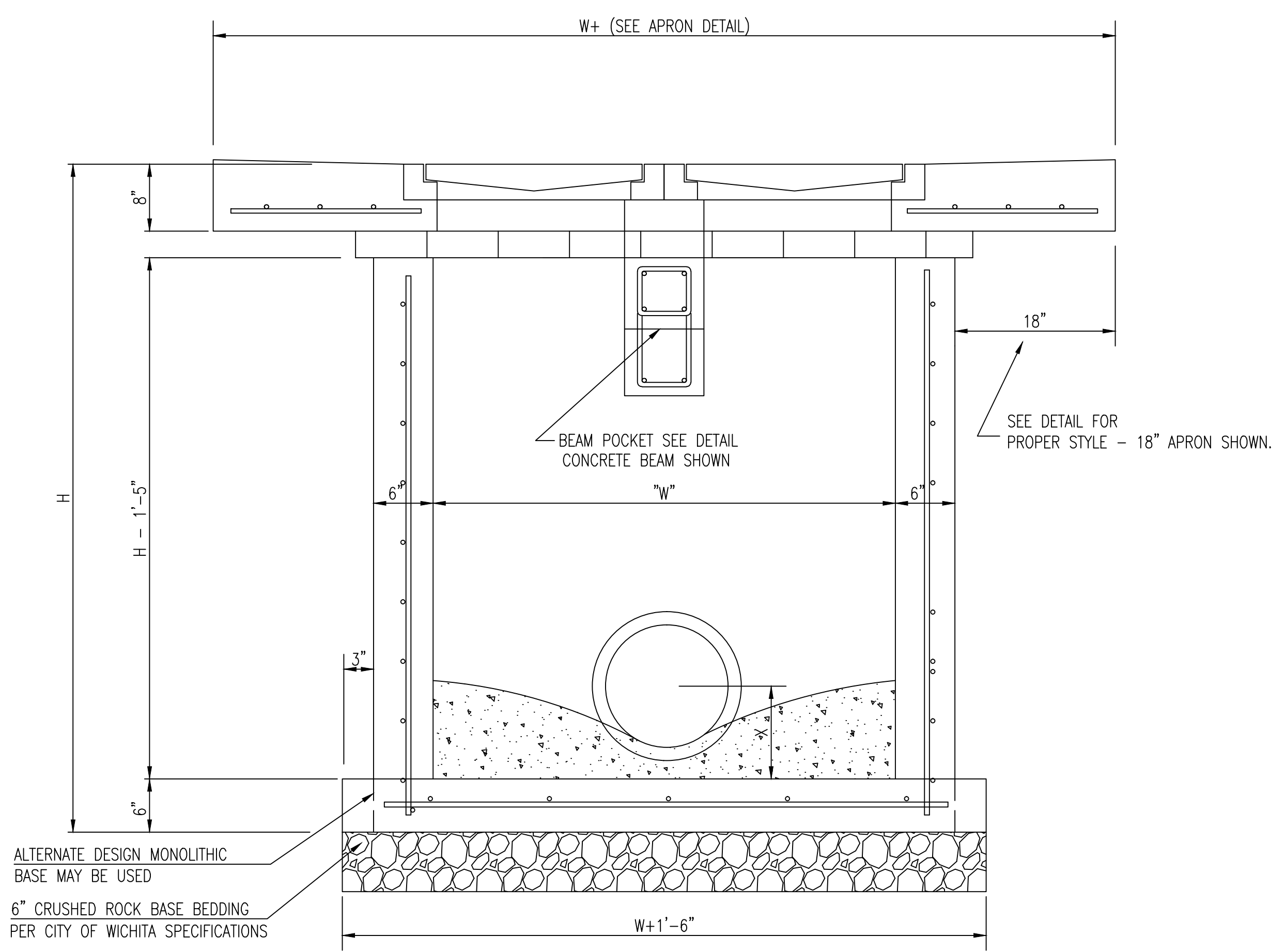


GALV. STEEL BEAM POCKET

BEAM REQUIRED FOR THIS INLET



SECTION "A-A"



SECTION "B-B"

W=4'-4" and L=4' for DOUBLE DROP INLET

The structure(s) on this detail sheet are designed for HS-20 loading at these specific dimensions only. If larger dimensions are required, the ENGINEER shall provide a project specific structure design for approval by the City Engineer's office.

GENERAL NOTES

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- THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
- INLET FRAME AND GRATE TO BE DEETER #2433, EJIW #5391-Z1 OR APPROVED EQUAL FOR 2'x2' SINGLE DROP INLET AND DEETER #2434, EJIW #5391 Z3 OR APPROVED EQUAL FOR 2'x4' DOUBLE DROP INLET.
- CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN INLET WALL SHALL BE GROUTED FLUSH TO THE INLET WALL WITH HYDRAULIC CEMENT AFTER THE INLET IS IN PLACE. LIFTING HOLES THRU THE INLET WALL WILL NOT BE ACCEPTED.



**DOUBLE DOUBLE  
DROP INLET  
WITH BEAM**

CITY ENGINEER  
**GARY JANZEN, P.E.**

|                |            |         |
|----------------|------------|---------|
| PROJECT NUMBER | OCA NUMBER | DATE    |
|                |            | 11/2010 |

CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202-1620  
(316) 268-4501

SHEET  
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REVISED 05/10/2011 - GJ

| REV. | DESCRIPTION | DATE |
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AS BUILT PLANS:  
CONTRACTOR: WILDCAT CONSTRUCTION  
INSPECTOR: RANDY VOTH, C.E.D.  
PDF BY: C.C. 3-18-2015

**SOUTH MAINTENANCE  
YARD IMPROVEMENTS  
& PARKING LOT  
RECONSTRUCTION**

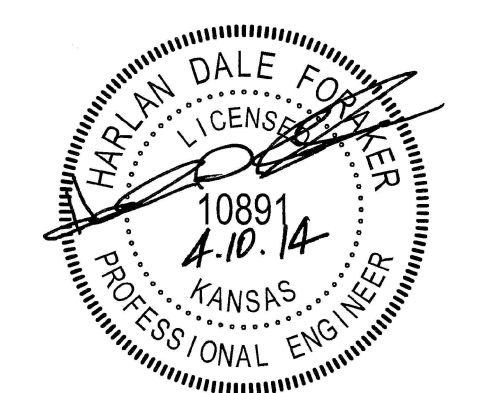
**WICHITA  
MID-CONTINENT  
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CIVIL ENGINEERING SERVICES



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PH.(316)262-8808 FAX.(316)262-1669



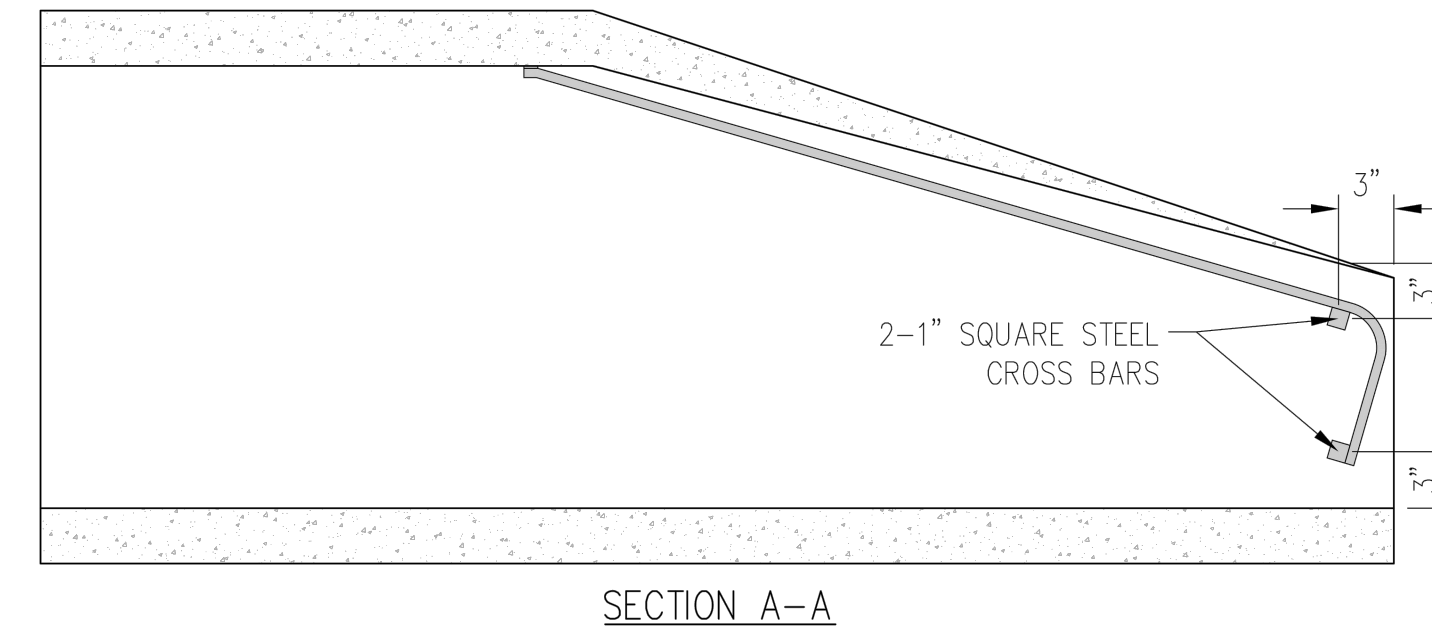
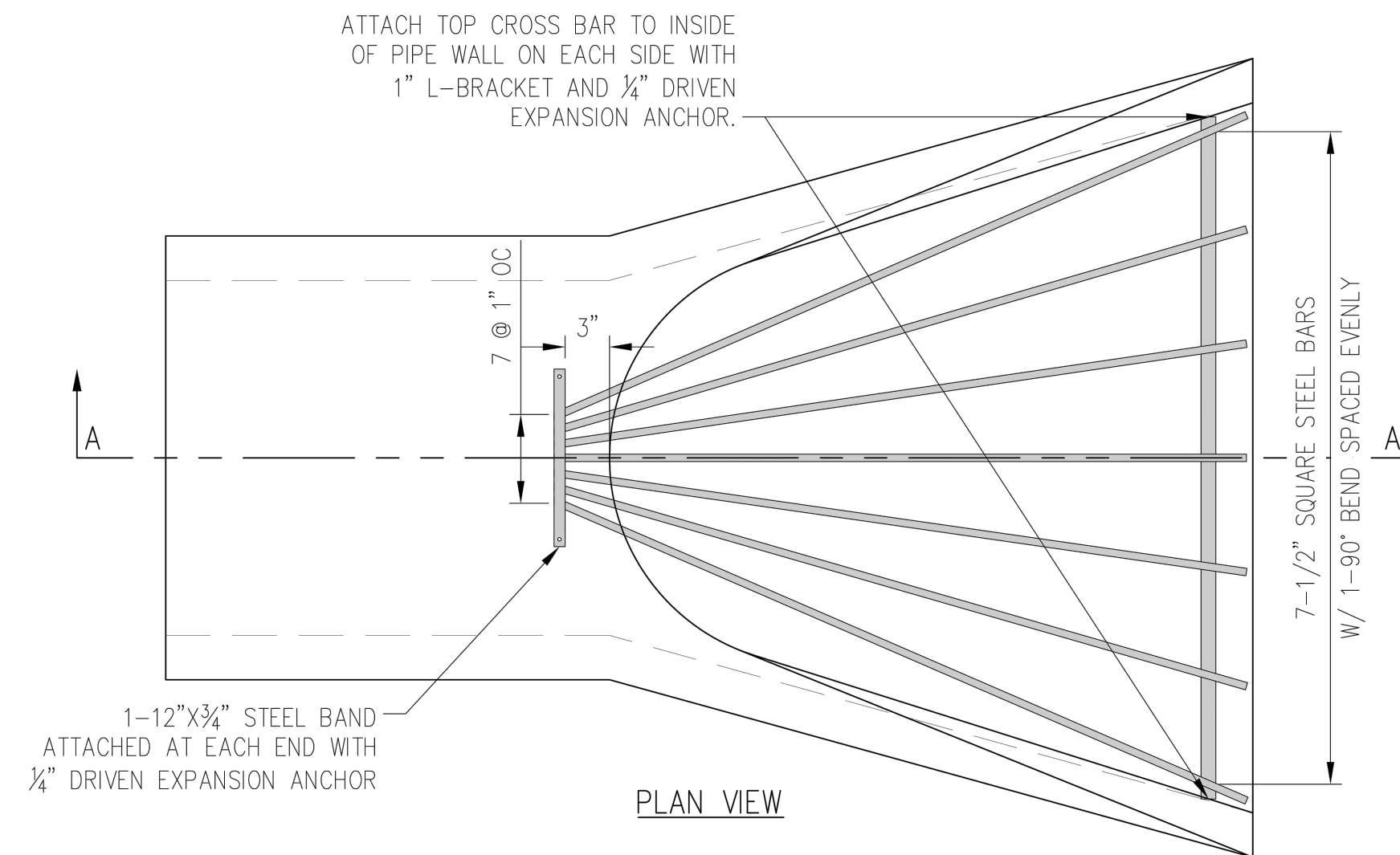
BID DRAWINGS

PROJECT NO.: 20122036  
ISSUE DATE: APRIL 2014  
CONTACT: H FORAKER

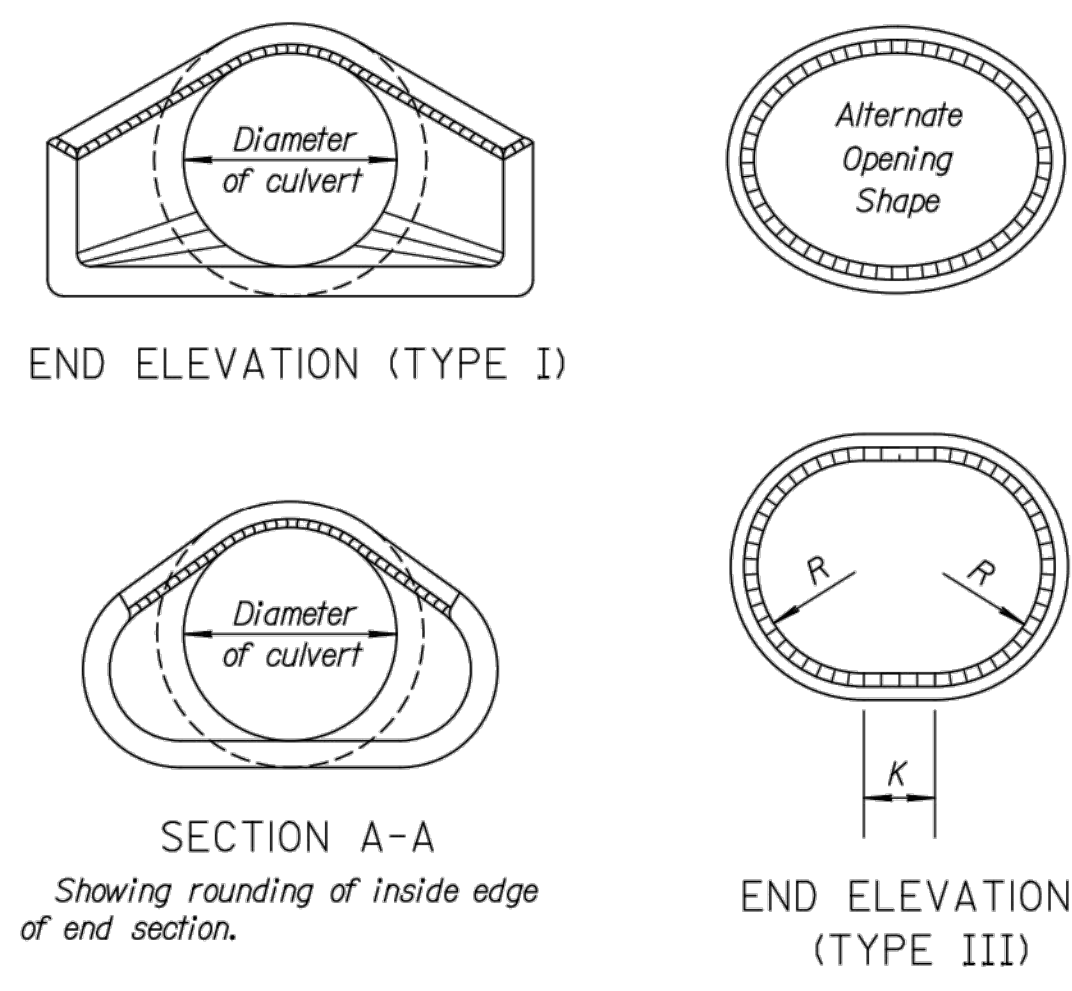
DRAWN BY: CC, CKW | CHECKED BY: HDF

**DOUBLE-DOUBLE DROP  
INLET**

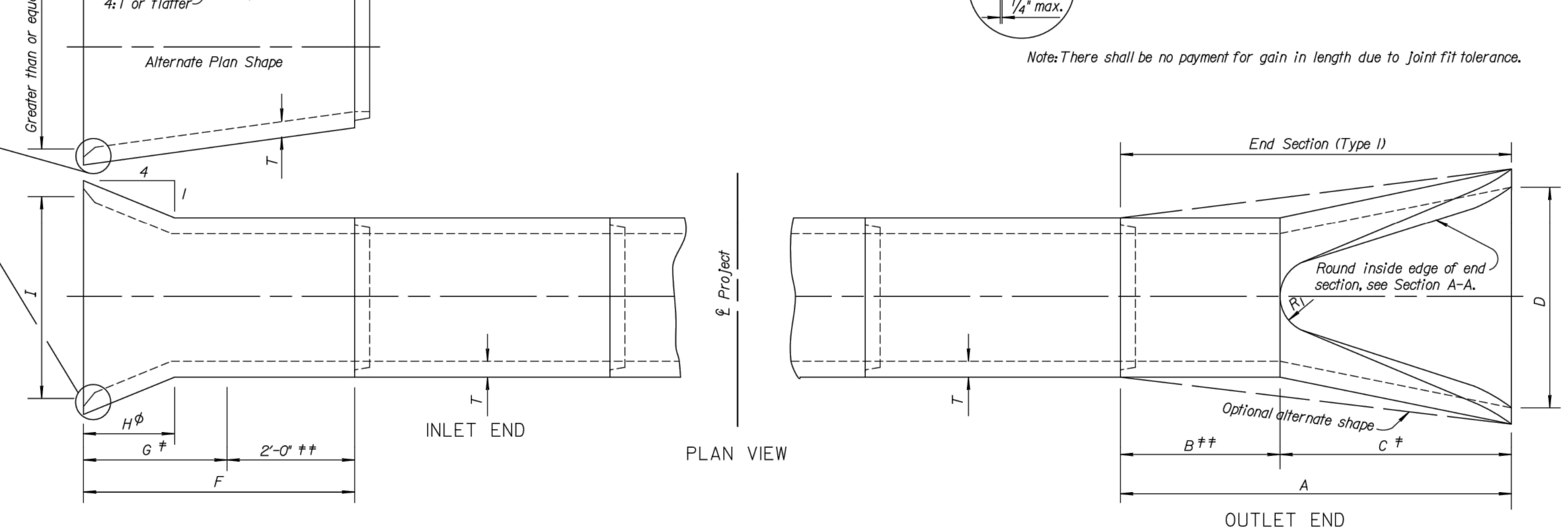
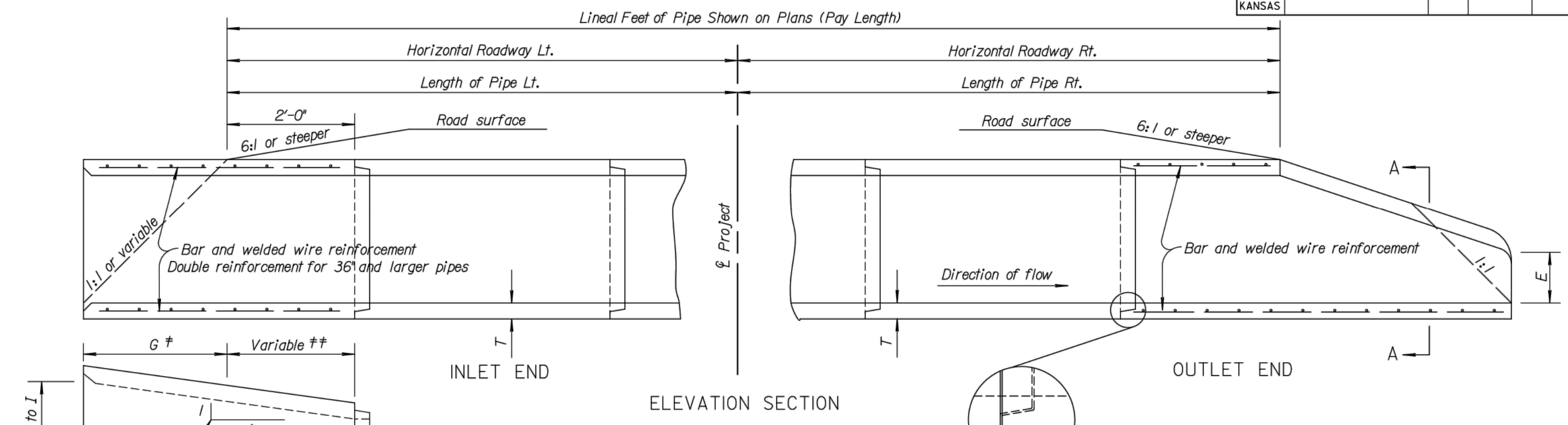
# RCP END GRATE



Note to Designer: KDOT Pipe Policy provides guidance in identifying the prohibited and/or restricted uses of CSP, ACSP, PEP, PVC, CAP & RCP. Provide end sections of the same type and coating as the pipe. Excavations in this area shall be noted in the Standard Specifications. Refer to the KDOT Design Manual Volume I (Part C) Road Section, Elements of Drainage & Culvert Design for structural pipe design information which includes corrugations, sizes, gauges, maximum/minimum fill heights and classes of pipe.



φ Transition to round pipe.  
 † Paid for as separate item of End Section, except when structures shall bid as alternates. In that case End Sections shall be subsidiary to bid item. \*Drainage Structure No. \*  
 †† Included in pay length of pipe.  
 \* Minimum waterway area is calculated at the inside of the bevel.



| Diam. | A         | B††        | C†        | D      | E      | R <sub>1</sub> | Slope    | T      |
|-------|-----------|------------|-----------|--------|--------|----------------|----------|--------|
| 12"   | 6'-0 7/8" | 4'-0 7/8"  | 2'-0"     | 2'-0"  | 4"     | 9              | 3:1      | 2"     |
| 15"   | 6'-1"     | 3'-10"     | 2'-3"     | 2'-6"  | 6"     | 11             | 3:1      | 2 1/4" |
| 18"   | 6'-1"     | 3'-10"     | 2'-3"     | 3'-0"  | 9"     | 12             | 3:1      | 2 1/2" |
| 24"   | 6'-1 1/2" | 2'-6"      | 3'-7 1/2" | 4'-0"  | 9 1/2" | 14             | 3:1      | 3"     |
| 30"   | 6'-1 3/4" | 1'-7 3/4"  | 4'-6"     | 5'-0"  | 1'-0"  | 15             | 3:1      | 3 1/2" |
| 36"   | 8'-1 3/4" | 2'-10 3/4" | 5'-3"     | 6'-0"  | 1'-3"  | 20             | 3:1      | 4"     |
| 42"   | 8'-2"     | 2'-11"     | 5'-3"     | 6'-6"  | 1'-9"  | 22             | 3:1      | 4 1/2" |
| 48"   | 8'-2"     | 2'-2"      | 6'-0"     | 7'-0"  | 2'-0"  | 22             | 3:1      | 5"     |
| 54"   | 8'-2 1/4" | 2'-9 1/4"  | 5'-5"     | 7'-6"  | 2'-3"  | 24             | 2.4 : 1  | 5 1/2" |
| 60"   | 8'-3"     | 3'-3"      | 5'-0"     | 8'-0"  | 2'-11" | 24             | 2:1      | 6"     |
| 72"   | 8'-3"     | 1'-9"      | 6'-6"     | 9'-0"  | 3'-0"  | 24             | 1.86 : 1 | 7"     |
| 84"   | 9'-3 1/2" | 1'-9"      | 7'-6 1/2" | 10'-0" | 3'-0"  | 24             | 1.6 : 1  | 8"     |

| Diam. | Min. W.W.* Area Sq.Ft. | F          | G          | H          | I     | J      | K     | R     | T      |
|-------|------------------------|------------|------------|------------|-------|--------|-------|-------|--------|
| 24"   | 4.5                    | 4'-3"      | 2'-3"      | 1'-5 1/8"  | 2'-8" | 1 1/2" | 8"    | 1'-0" | 3"     |
| 30"   | 7.0                    | 4'-9 1/2"  | 2'-9 1/2"  | 1'-9 1/2"  | 3'-4" | 2"     | 10"   | 1'-3" | 3 1/2" |
| 36"   | 10.1                   | 5'-4"      | 3'-4"      | 2'-1 1/2"  | 4'-0" | 2"     | 1'-0" | 1'-6" | 4"     |
| 42"   | 13.7                   | 5'-10 1/2" | 3'-10 1/2" | 2'-5 1/8"  | 4'-8" | 2 1/2" | 1'-2" | 1'-9" | 4 1/2" |
| 48"   | 17.9                   | 6'-5"      | 4'-5"      | 2'-10 1/8" | 5'-4" | 3"     | 1'-4" | 2'-0" | 5"     |
| 54"   | 22.7                   | 6'-11 1/2" | 4'-11 1/2" | 3'-2 1/2"  | 6'-0" | 3 1/2" | 1'-6" | 2'-3" | 5 1/2" |
| 60"   | 28.0                   | 7'-6"      | 5'-6"      | 3'-6 1/8"  | 6'-8" | 4"     | 1'-8" | 2'-6" | 6"     |
| 72"   | 40.3                   | 8'-7"      | 6'-7"      | 4'-3 5/8"  | 8'-0" | 5"     | 2'-0" | 3'-0" | 7"     |
| 84"   | 54.8                   | 9'-8"      | 7'-8"      | 5'-0 3/8"  | 9'-4" | 6"     | 2'-4" | 3'-6" | 8"     |

Dimensions for alternate shapes shall be equal to or greater than those shown in the table, unless otherwise shown.

|     |         |                                |       |       |
|-----|---------|--------------------------------|-------|-------|
| NO. | DATE    | REVISIONS                      | BY    | APP'D |
| 2   | 4-18-08 | Added ref. to KDOT Pipe Policy | S.W.K | J.O.B |
| 1   | 4-05-05 | Revised reinforcement callout  | S.W.K | J.O.B |

KANSAS DEPARTMENT OF TRANSPORTATION  
**CONCRETE END SECTIONS FOR CONCRETE PIPES**  
 TYPE I & SIDE TAPERED INLET SECTION (TYPE III)  
 RD662  
 DESIGNER: JAMES O. BREWER  
 CHECKED: JAMES O. BREWER  
 TRACED: JAMES O. BREWER  
 KDOT Graphics Certified 07-22-2010

| REV. | DESCRIPTION | DATE |
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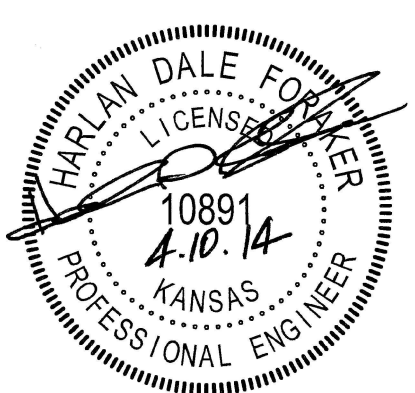
AS BUILT PLANS:  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015

**SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION**  
  
**WICHITA MID-CONTINENT AIRPORT**  
  
 SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
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1935 WEST MAPLE STREET  
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BID DRAWINGS  
  
 PROJECT NO.: 20122036  
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 DRAWN BY: CC, CKW | CHECKED BY: HDF

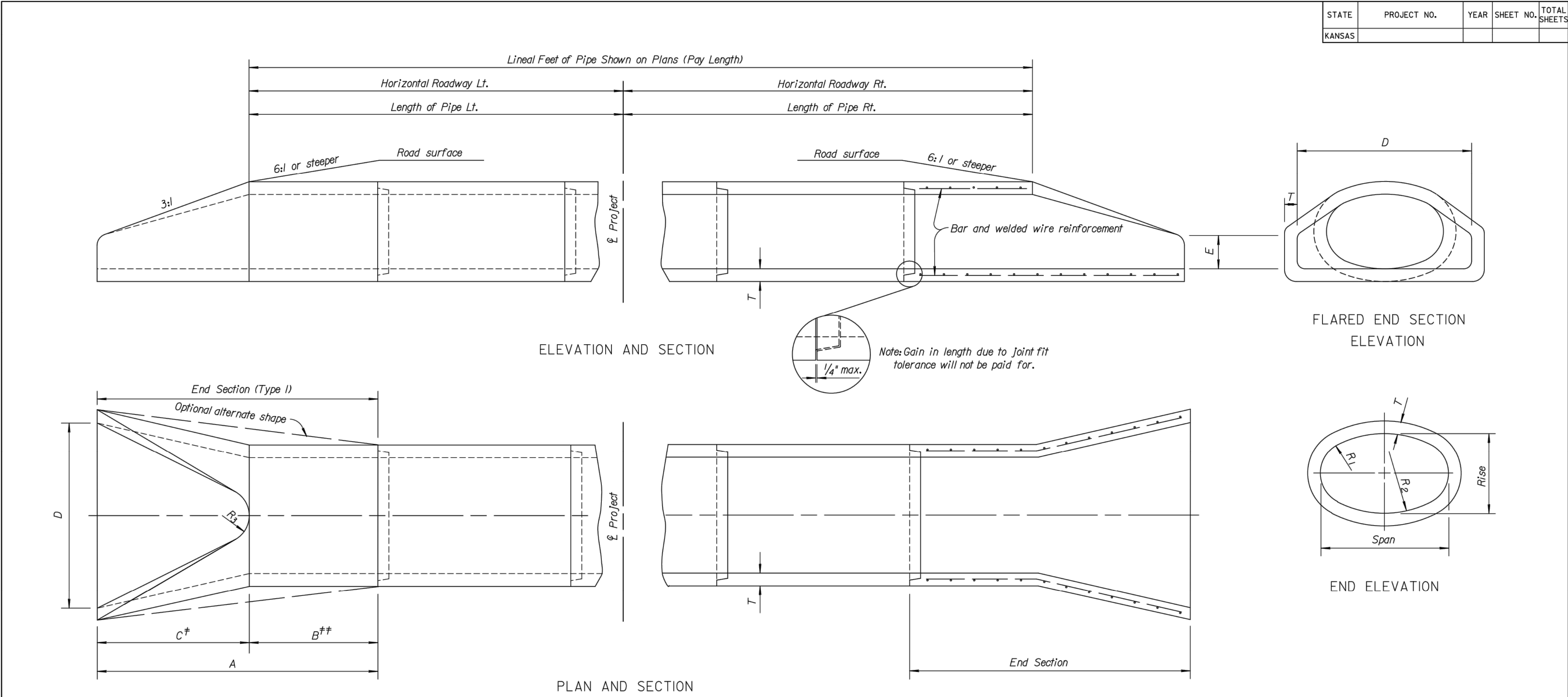
## RCP END SECTION DETAILS

| REV. | DESCRIPTION | DATE |
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AS BUILT PLANS:  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015

Note to Designer: KDOT Pipe Policy provides guidance in identifying the prohibited and/or restricted uses of CSP, ACSF, PEP, PVCP, CAP & RCP. Provide end sections of the same type and coating as the pipe. Exceptions to this are noted in the Standard Specifications. Refer to the KDOT Design Manual, Volume I (Part C), Road Section, Elements of Drainage & Culvert Design for structural pipe design information which includes corrugations, sizes, gauges, maximum/minimum fill heights and classes of pipe.

Plotted: 22-JUL-2010 18:25  
 Drawn By: marks  
 File: rd663.dgn (rd663)



| STATE  | PROJECT NO. | YEAR | SHEET NO. | TOTAL SHEETS |
|--------|-------------|------|-----------|--------------|
| KANSAS |             |      |           |              |

| Bid Designation Sq. Ft. | Min. W.W. Area Sq. Ft. | Span | Rise | Overall Length |       | C #    | D     | E       | R <sub>1</sub> | R <sub>2</sub> | R <sub>3</sub> | T      |
|-------------------------|------------------------|------|------|----------------|-------|--------|-------|---------|----------------|----------------|----------------|--------|
|                         |                        |      |      | A              | B #   |        |       |         |                |                |                |        |
| 1.0 or 1.5              | 1.8                    | 23"  | 14"  | 6'-0"          | 3'-9" | 2'-3"  | 3'-0" | 8"      | 6"             | 20"            | 6"             | 2 3/4" |
| 2.0, 2.5 or 3.0         | 3.3                    | 30"  | 19"  | 6'-0"          | 2'-9" | 3'-3"  | 4'-0" | 8 1/2"  | 8 1/4"         | 26 1/4"        | 7"             | 3 1/4" |
| 4.0                     | 4.1                    | 34"  | 22"  | 6'-0"          | 2'-2" | 3'-10" | 4'-6" | 9"      | 9 1/4"         | 29 17/32"      | 8"             | 3 1/2" |
| 5.0                     | 5.1                    | 38"  | 24"  | 6'-0"          | 1'-6" | 4'-6"  | 5'-0" | 9 1/2"  | 10 1/4"        | 32 3/4"        | 9"             | 3 3/4" |
| 6.0                     | 6.3                    | 42"  | 27"  | 6'-0"          | 1'-3" | 4'-9"  | 5'-6" | 10 3/8" | 11 7/16"       | 36 3/16"       | 10 1/2"        | 3 3/4" |
| 7.0                     | 7.4                    | 45"  | 29"  | 8'-0"          | 3'-0" | 5'-0"  | 6'-0" | 11 1/4" | 12 1/4"        | 39 1/4"        | 12"            | 4 1/2" |
| 8.5                     | 8.8                    | 49"  | 32"  | 8'-0"          | 3'-0" | 5'-0"  | 6'-3" | 12"     | 13 9/16"       | 42 2/32"       | 12 1/2"        | 4 3/4" |
| 10.0                    | 10.2                   | 53"  | 34"  | 8'-0"          | 3'-0" | 5'-0"  | 6'-6" | 15 3/4" | 14 3/4"        | 46"            | 13"            | 5"     |
| 11.0 or 12.5            | 12.9                   | 60"  | 38"  | 8'-0"          | 3'-0" | 5'-0"  | 7'-0" | 21"     | 16 1/2"        | 51 3/4"        | 14"            | 5 1/2" |
| 14.0 or 16.5            | 16.6                   | 68"  | 43"  | 8'-0"          | 3'-0" | 5'-0"  | 7'-6" | 25 1/2" | 18 2/32"       | 58 3/32"       | 16"            | 6"     |

# Paid for as separate item of "End Sections".  
 ## Included in pay length of pipe.

Design of end section shall conform to standard reinforced concrete horizontal elliptical pipe. Slight variations in the dimensions specified will be allowed.

| NO. | DATE    | REVISIONS                      | BY     | APP'D  |
|-----|---------|--------------------------------|--------|--------|
| 3   | 4-18-08 | Added ref. to KDOT Pipe Policy | S.W.K. | J.O.B. |
| 2   | 4-6-05  | Revised reinforcement callout  | S.W.K. | J.O.B. |
| 1   | 6-16-95 | Revised table & labeling       | R.J.S. | J.O.B. |

KANSAS DEPARTMENT OF TRANSPORTATION

CONCRETE END SECTION FOR REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE TYPE I

RD663

|            |         |            |                |
|------------|---------|------------|----------------|
| DESIGNED   | 6-27-08 | APP'D      | Jane O. Brewer |
| DESIGN CK. |         | QUANTITIES | TRACED         |
|            |         | DETAIL CK. | Bowser         |
|            |         | QUAN. CK.  |                |
|            |         | TRACE CK.  | Kling          |

KDOT Graphics Certified 07-22-2010

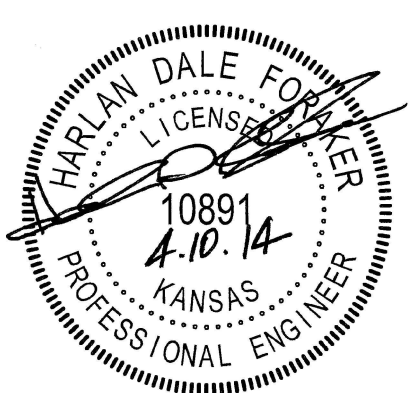
SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION

WICHITA MID-CONTINENT AIRPORT  
 SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
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 PH.(316)262-8808 FAX.(316)262-1669



BID DRAWINGS

PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, CKW | CHECKED BY: HDF

RCPHE END SECTION DETAILS

## SEQUENCE OF CONSTRUCTION

### PHASE I

1. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
2. PREPARE TEMPORARY PARKING AND STORAGE AREA UPON IMPLEMENTATION OF THE FOLLOWING AREAS: TRAILER, PARKING, LAY DOWN, PORTA POTTY, WHEEL WASH, CONCRETE WASHOUT, MASONS AREA, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., DENOTE THEM ON THE SITE MAPS IMMEDIATELY AND NOTE ANY CHANGES IN THE LOCATIONS AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS
3. CONSTRUCT THE SILT FENCES ON THE SITE
4. CONSTRUCT THE SEDIMENTATION AND SEDIMENT TRAP BASINS
5. HALT ALL ACTIVITIES AND CONTACT THE CIVIL ENGINEERING CONSULTANT TO PERFORM INSPECTION OF BMPs. GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT STORM WATER PRE-CONSTRUCTION MEETING WITH ENGINEER AND ALL GROUND DISTURBING CONTRACTORS BEFORE PROCEEDING WITH CONSTRUCTION.
6. CLEAR AND GRUB THE SITE
7. BEGIN GRADING THE SITE

### PHASE II

1. TEMPORARILY SEED DENUDED AREAS.
2. INSTALL UTILITIES, UNDERDRAINS, STORM SEWERS, CURBS AND GUTTERS.
3. INSTALL RIP RAP AROUND OUTLET STRUCTURES.
4. INSTALL INLET PROTECTION AROUND ALL STORM SEWER STRUCTURES.
5. PREPARE SITE FOR PAVING.
6. PAVE SITE.
7. INSTALL INLET PROTECTION DEVICES.
8. COMPLETE GRADING AND INSTALL PERMANENT SEEDING AND PLANTING
9. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES (ONLY IF SITE IS STABILIZED)

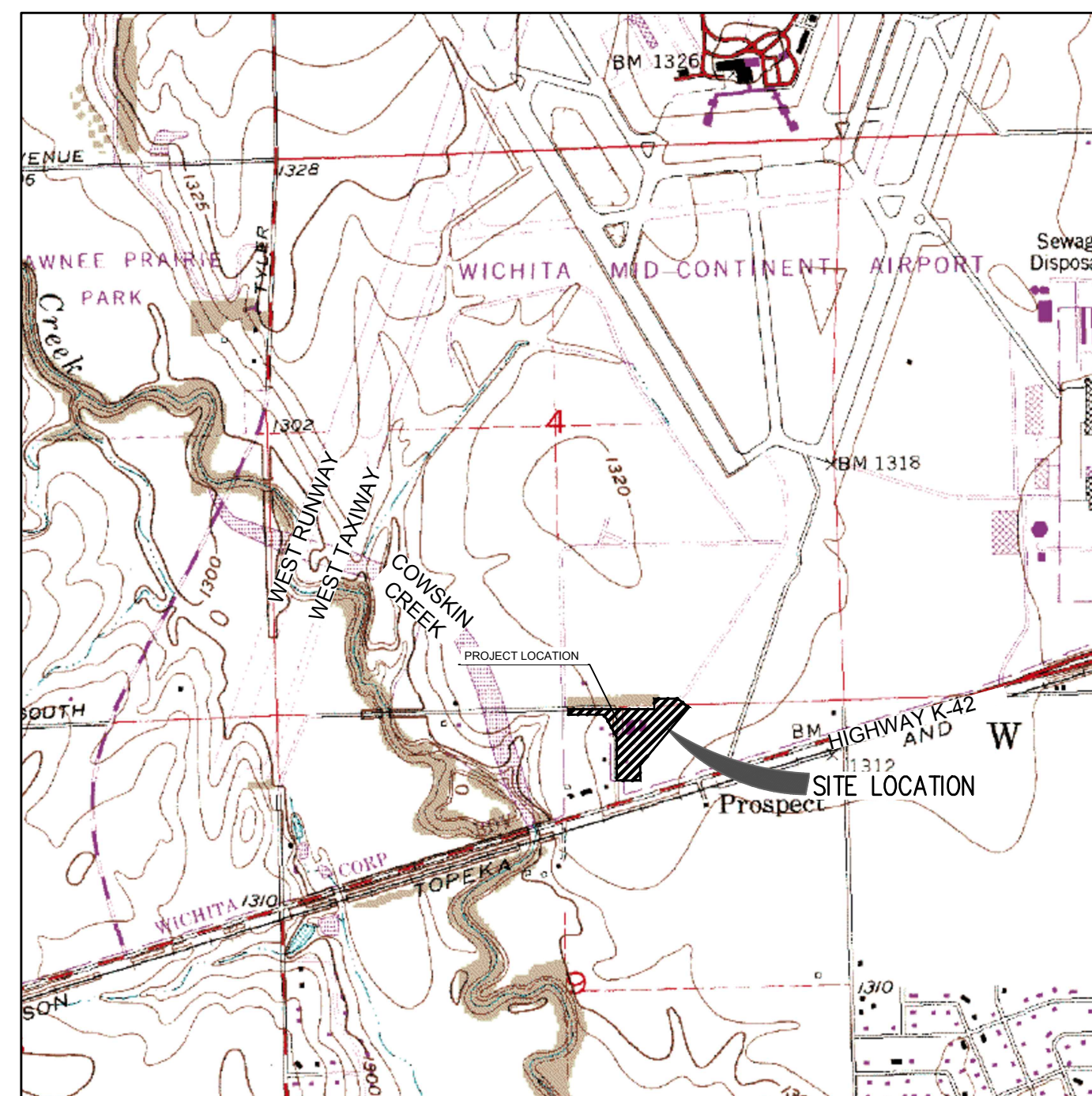
## GENERAL EROSION NOTES

- A. THE STORMWATER POLLUTION PREVENTION PLAN IS COMPRISED OF THIS DRAWING ("SITE MAP"), THE STANDARD DETAILS, THE PLAN NARRATIVE, ATTACHMENTS INCLUDED IN PROJECT SPECIFICATIONS ("SWPPP"), PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
- B. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF KANSAS NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
- C. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
- D. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
- E. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
- F. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
- G. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
- H. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED. CONCRETE TRUCK CLEAN OUT LOCATION IS NOTED ON THE PLANS.
- I. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
- J. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
- K. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
- L. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.

| SEEDING PERIODS                                       |                        |
|---|------------------------|
| COOL SEASON   | WARM SEASON            |
| February 15 to April 20 and August 15 to September 30 | December 1 to April 30 |
| Blue Grasses  | Bluestems              |
| Brome Grasses   | Buffalo Grass          |
| Fescues   | Eastern Gamma Grass    |
| Rye Grasses   | Grass                  |
| Wheat Grasses   | Indian Grass           |
| Red Top Grass   | Low Grasses            |
|   | Switch Grass           |
|   | Wildflower Mixes       |

When "COOL SEASON" species are mixed with "WARM SEASON" species, in areas of 5 acres or more, the mixture shall be seeded during the "WARM SEASON". In areas of less than 5 acres, the mixture of "COOL SEASON" and "WARM SEASON" species may be seeded during the "WARM OR COOL SEASONS".

- M. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR AT LEAST 14 DAYS, SHALL BE TEMPORARILY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
- N. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.
- O. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
- P. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
- Q. CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
- R. ON-SITE & OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
- S. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
- T. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, STRAW BALES, ETC.) TO PREVENT EROSION.
- U. ALL CONSTRUCTION AREA SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.
- V. BETWEEN THE TIME THIS SWPPP IS IMPLEMENTED AND FINAL NOTICE OF TERMINATION HAS BEEN SUBMITTED, ALL DISTURBED AREAS AND POLLUTANT CONTROLS MUST BE INSPECTED WEEKLY AND WITHIN 24HRS OF A HALF OF AN INCH OF RAINFALL.
- W. KEEP WRITTEN RECORDS OF INSPECTION AND CORRECTIVE ACTIONS.
- X. PERMANENT SEEDING SHALL BE BUFFALO GRASS AS SPECIFIED IN TABLE 902-1 OF SPECIFICATION SECTION 902, SEEDING OPERATIONS.



USGS QUADRANGLE MAP  
1"=3000'

| SOIL EROSION/SEDIMENTATION CONTROL OPERATION TIME SCHEDULE                      |     |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR SPECIFIC PROJECT SCHEDULE |     |     |     |     |     |     |     |     |     |     |     |     |
| CONSTRUCTION SEQUENCE   | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
| ROUGH GRADE / SEDIMENT CONTROL  |     |     |     |     |     |     |     |     |     |     |     |     |
| TEMPORARY CONTROL MEASURES  |     |     |     |     |     |     |     |     |     |     |     |     |
| STRIP & STOCKPILE TOPSOIL   |     |     |     |     |     |     |     |     |     |     |     |     |
| STORM FACILITIES  |     |     |     |     |     |     |     |     |     |     |     |     |
| TEMPORARY CONSTRUCTION ROADS  |     |     |     |     |     |     |     |     |     |     |     |     |
| FOUNDATION / BUILDING CONSTRUCTION  |     |     |     |     |     |     |     |     |     |     |     |     |
| SITE CONSTRUCTION   |     |     |     |     |     |     |     |     |     |     |     |     |
| PERMANENT CONTROL STRUCTURES  |     |     |     |     |     |     |     |     |     |     |     |     |
| FINISH GRADING  |     |     |     |     |     |     |     |     |     |     |     |     |
| LANDSCAPING/SEED/FINAL STABILIZATION  |     |     |     |     |     |     |     |     |     |     |     |     |

| ACREAGE SUMMARY |             |
|-----------------|-------------|
| IMPERVIOUS AREA | 4.90± ACRES |
| SEEDED AREA     | 0.76± ACRES |
| TOTAL DISTURBED | 7.30± ACRES |

DEVELOPER/OWNER:  
JOHN OSWALD, P.E., MANAGER  
WICHITA MID-CONTINENT AIRPORT  
SOUTH MAINTENANCE YARD  
WICHITA, KS

SITE OPERATOR/GENERAL CONTRACTOR:  
TBD

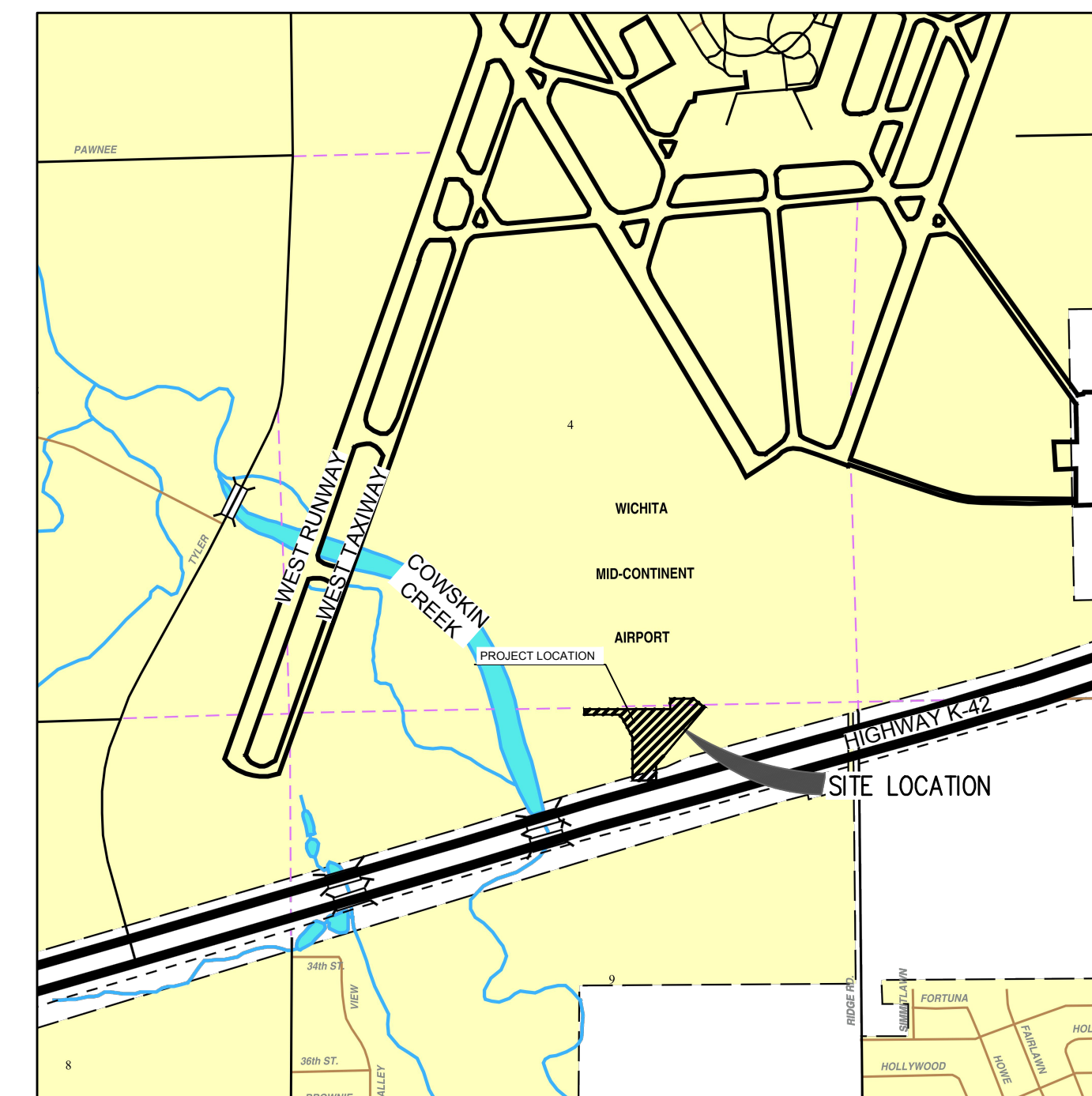
SUPERINTENDENT:  
TBD

B.M.

Mid-Continent Airport Control  
NGS Data Sheet #DE8254  
Metal Rod Stamped ICT J 2002  
Primary Airport Control Station  
N. 1669297.9000  
E. 1622098.3300  
Elevation = 1318.40(NAVD88)

NGS Data Sheet #AJ8088  
Metal Disc Top Conc Monument Stamped ICT H 2001  
Secondary Airport Control Station  
N. 1669731.2400  
E. 1619207.5900  
Elevation = 1312.15(NAVD88)

NGS Data Sheet #AJ8087  
Metal Disc Top Conc Monument Stamped ICT H 2001  
Secondary Airport Control Station  
N. 1674427.3950  
E. 1619778.1100  
Elevation = 1328.84(NAVD88)



VICINITY MAP  
1"=3000'

| REV. | DESCRIPTION | DATE |
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AS BUILT PLANS:  
CONTRACTOR: WILDCAT CONSTRUCTION  
INSPECTOR: RANDY VOTH, C.E.D.  
PDF BY: C.C. 3-18-2015

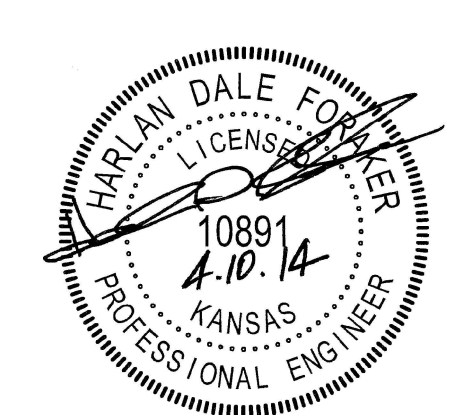
## SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION

WICHITA MID-CONTINENT AIRPORT  
SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669



BID DRAWINGS

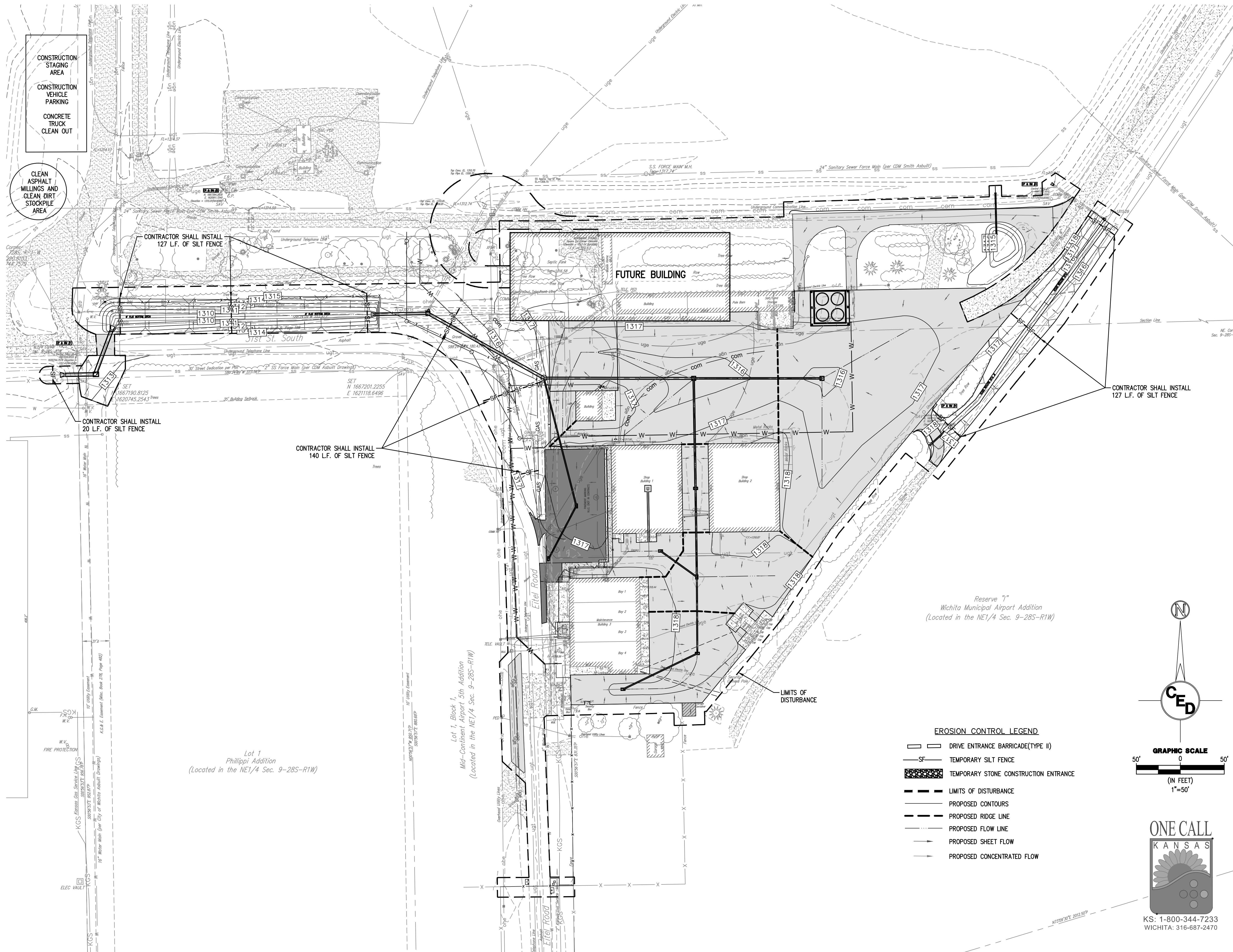
PROJECT NO.: 20122036  
ISSUE DATE: APRIL 2014  
CONTACT: H FORAKER  
DRAWN BY: CC, CKW | CHECKED BY: HDF

## EROSION CONTROL NOTES



KS: 1-800-344-7233  
WICHITA: 316-687-2470

FILE LOCATION: S:\Drawing Files\Land Projects CC 11-17-08\WASouthMainFacility\DWG\As-Built\PPD\Erosion Control Plan As-Built.dwg TAB NAME: EC PLAN-PH 1 USER: cecromites SAVED: 3/17/2015 11:55 AM PLOTTED: 3/17/2015 12:08 PM



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AS BUILT PLANS:  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015

**SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION**

**WICHITA MID-CONTINENT AIRPORT**

SEDGWICK COUNTY, KANSAS

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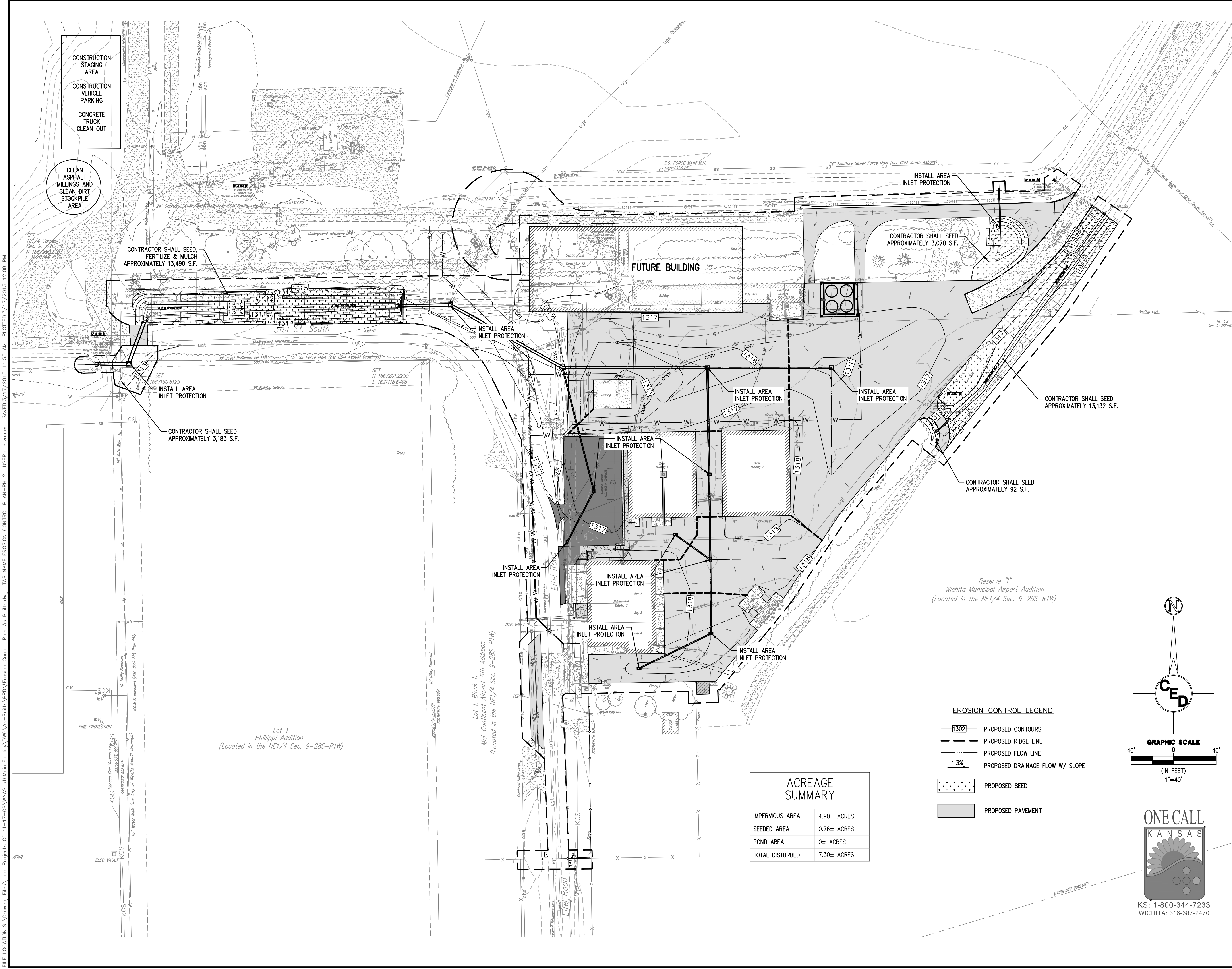
BID DRAWINGS

PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, CKW | CHECKED BY: HDF

**EROSION CONTROL PLAN-PH 1**

| REV. | DESCRIPTION | DATE |
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AS BUILT PLANS:  
 CONTRACTOR: WILDCAT CONSTRUCTION  
 INSPECTOR: RANDY VOTH, C.E.D.  
 PDF BY: C.C. 3-18-2015

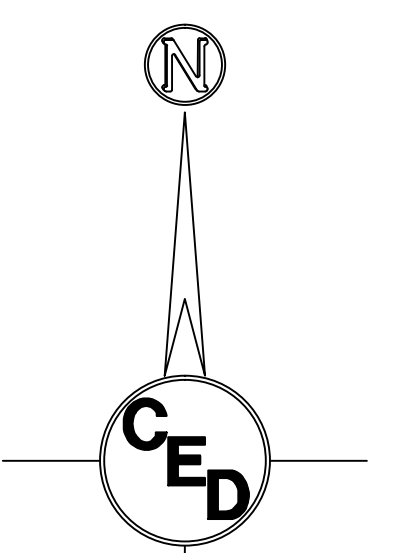


FILE LOCATION: S:\Drawing Files\Land Projects\CC\_11-17-08\WASouthMainFacility\DWG\As-Built\PPD\Erosion Control Plan As-Built.dwg TAB NAME: EROSION CONTROL PLAN-PH 2 USER: rccvantes SAVED: 3/17/2015 11:55 AM PLOTTED: 3/17/2015 12:08 PM

**ACREAGE SUMMARY**

|                 |             |
|-----------------|-------------|
| IMPERVIOUS AREA | 4.90± ACRES |
| SEEDING AREA    | 0.76± ACRES |
| POND AREA       | 0± ACRES    |
| TOTAL DISTURBED | 7.30± ACRES |

- EROSION CONTROL LEGEND**
- 1302 — PROPOSED CONTOURS
  - - - PROPOSED RIDGE LINE
  - — — PROPOSED FLOW LINE
  - 1.3% PROPOSED DRAINAGE FLOW W/ SLOPE
  - PROPOSED SEED
  - ▒ PROPOSED PAVEMENT



**SOUTH MAINTENANCE YARD IMPROVEMENTS & PARKING LOT RECONSTRUCTION**

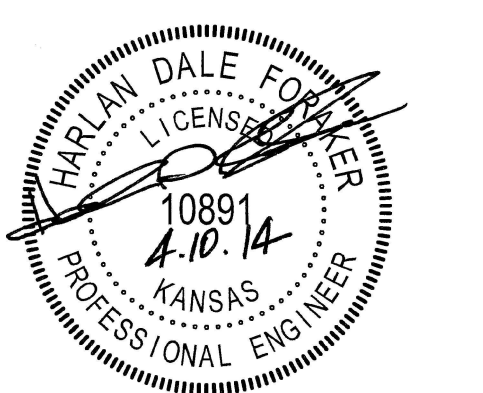
**WICHITA MID-CONTINENT AIRPORT**

SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
 CIVIL ENGINEERING SERVICES



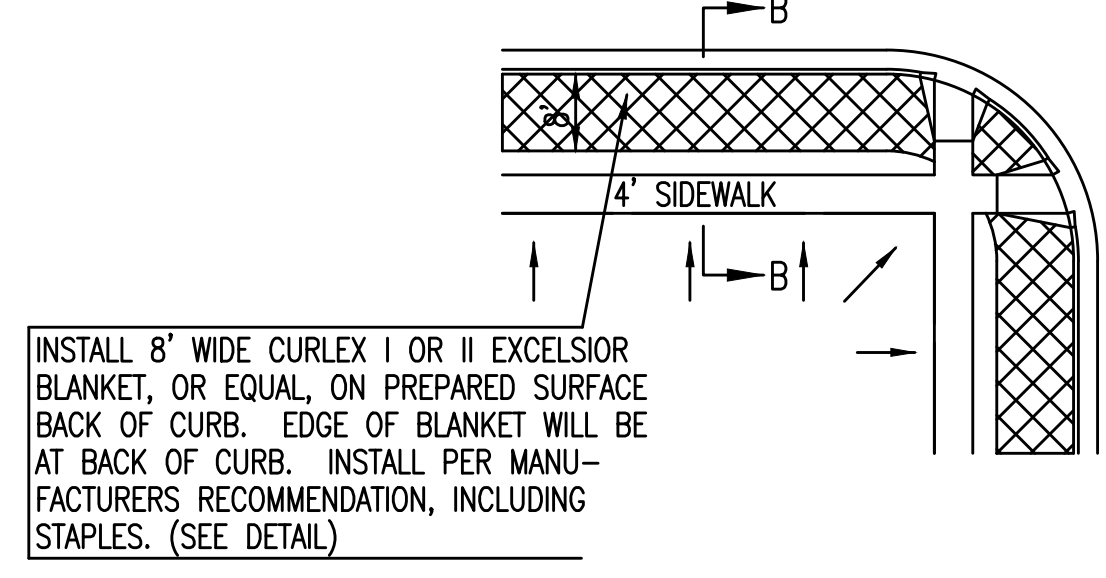
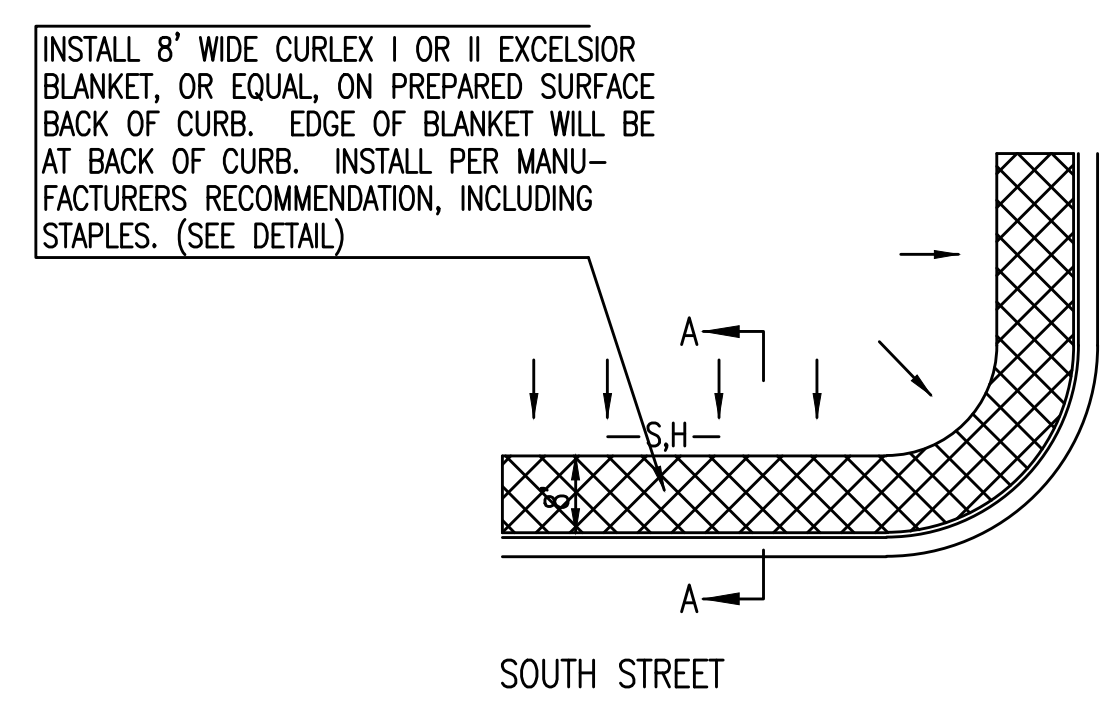
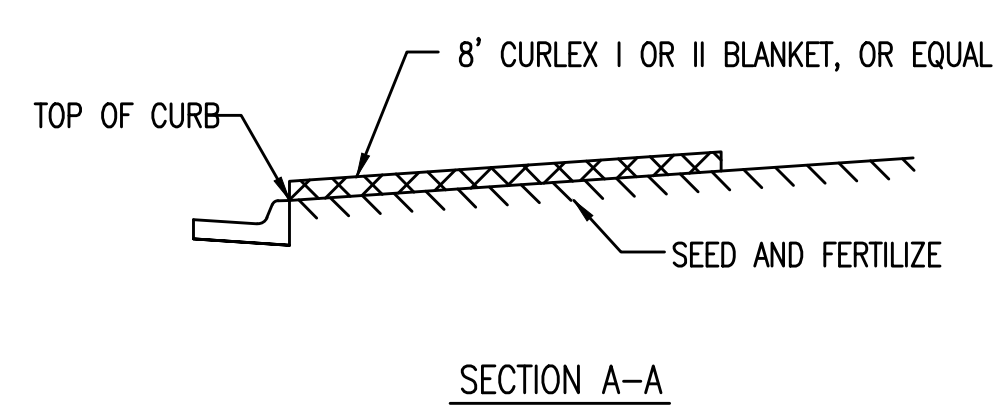
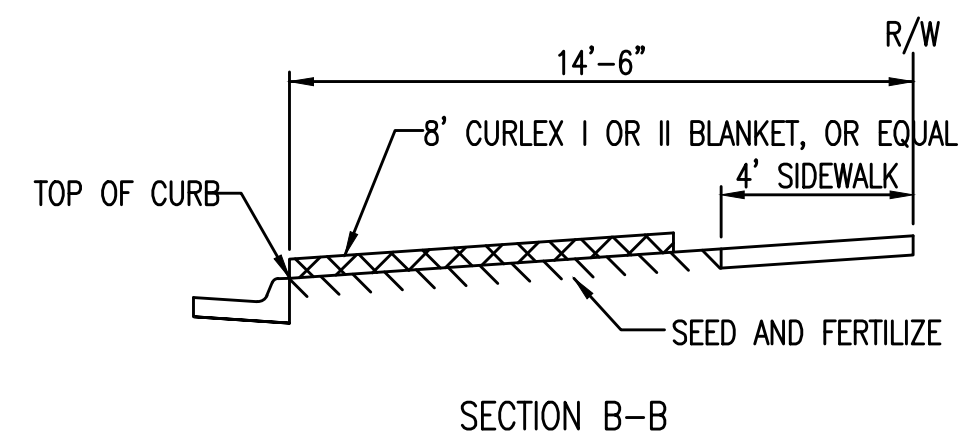
1935 WEST MAPLE STREET  
 WICHITA, KANSAS 67213  
 PH.(316)262-8808 FAX.(316)262-1669



**BID DRAWINGS**

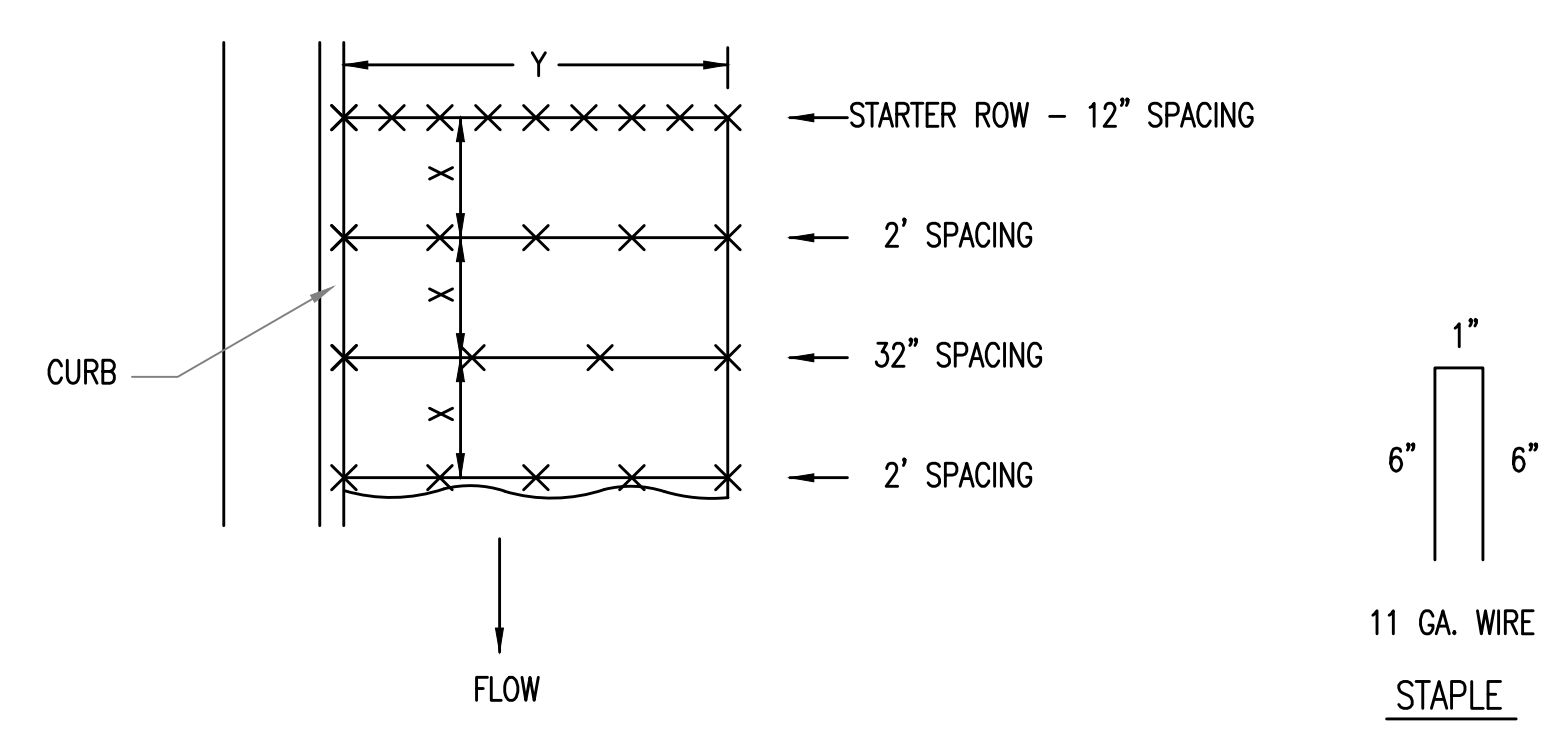
PROJECT NO.: 20122036  
 ISSUE DATE: APRIL 2014  
 CONTACT: H FORAKER  
 DRAWN BY: CC, CKW | CHECKED BY: HDF

**EROSION CONTROL PLAN-PH 2**

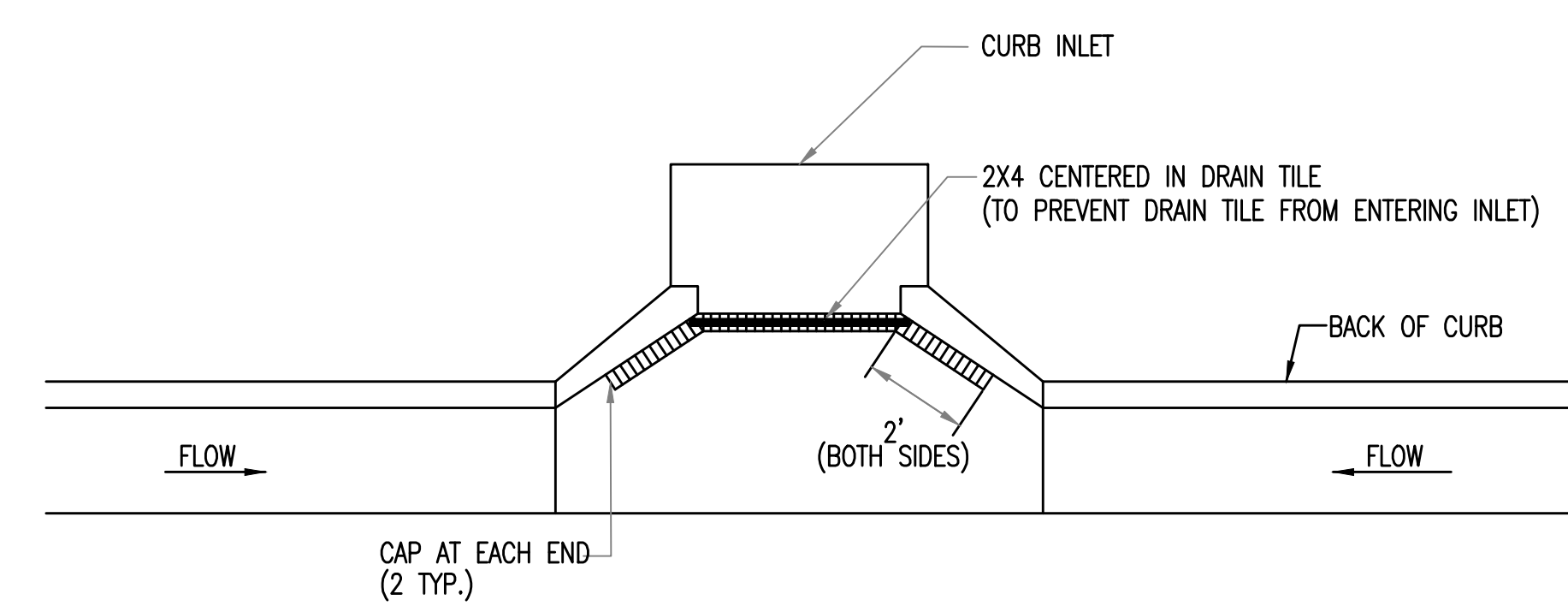


- GENERAL NOTES
- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
  - EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
  - AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER, SUPPLEMENTAL EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS NEEDED, TO FIX THE PROBLEM.

**BACK OF CURB PROTECTION DETAIL**

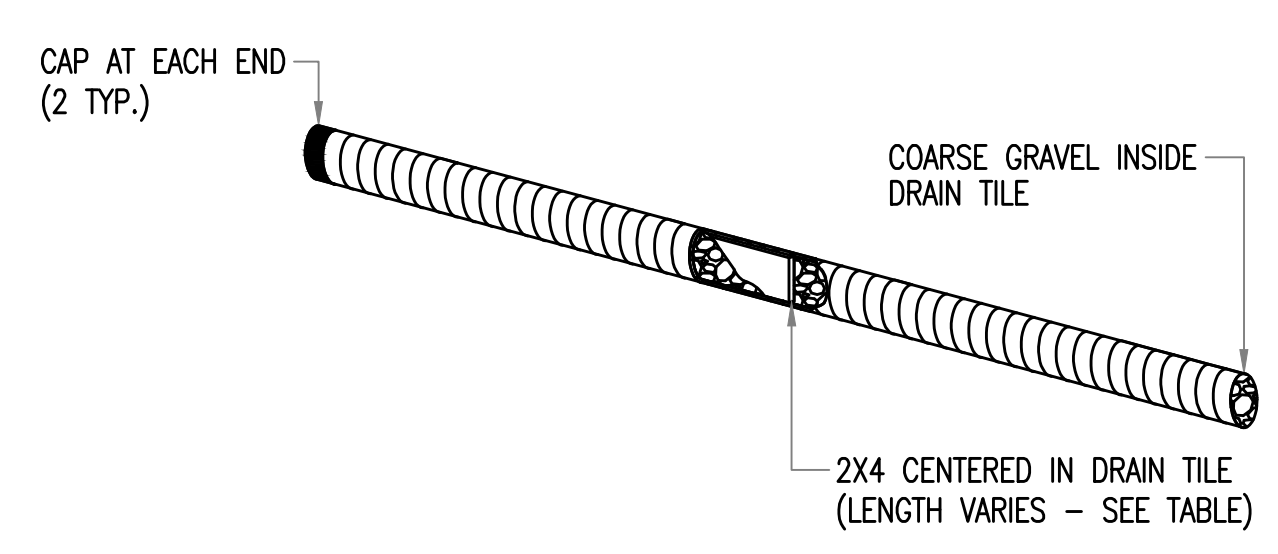


**DETAILS FOR APPROVED EROSION CONTROL MAT**

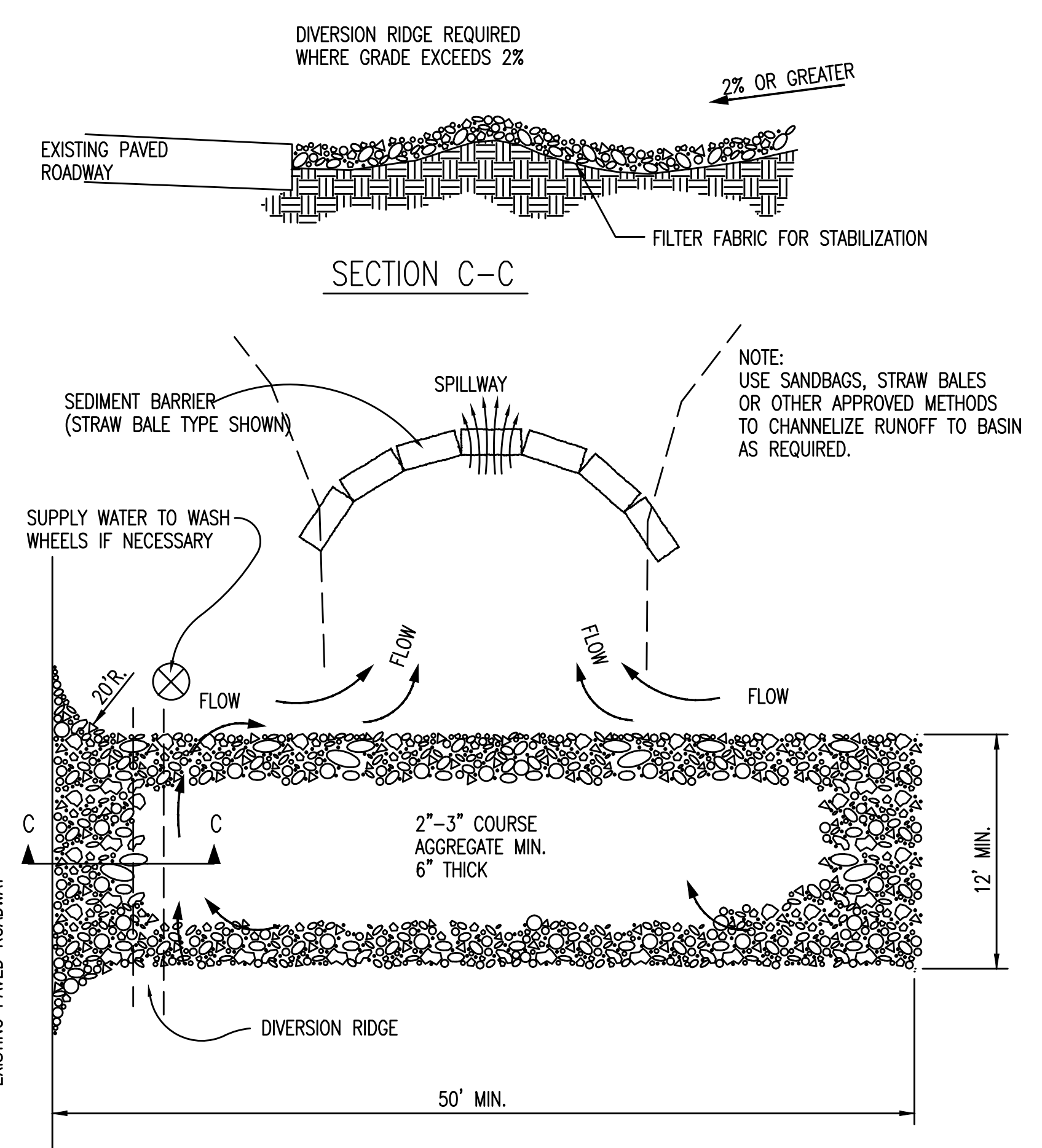


NOTE:  
 PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

| 2X4 LENGTH | INLET TYPE | INLET OPENING |
|------------|------------|---------------|
| 5'-6"      | 1-A        | 5'-0"         |
| 10'-6"     | 1-A        | 10'-0"        |
| 15'-6"     | 1-A        | 15'-0"        |



**CURB INLET PROTECTION**  
 4" PERFORATED PIPE W/ GRAVEL



**STABILIZED CONSTRUCTION ENTRANCE**

- GENERAL NOTES
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
  - WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
  - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN, AS SHOWN ABOVE.
  - DRIVE ENTRANCES ONTO RESIDENTIAL LOTS WILL NOT BE REQUIRED TO HAVE THE SEDIMENT BARRIER SHOWN, BUT WHEEL WASHING MAY BE REQUIRED IF STABILIZED ENTRANCE IS NOT SUFFICIENT TO KEEP MUD FROM BEING TRACKED ONTO ADJACENT STREET. ENTRANCE SHALL EXTEND FROM BACK OF CURB TO DWELLING.

**CITY OF WICHITA**

PUBLIC WORKS & UTILITIES  
 ENGINEERING DIVISION

CITY HALL - SEVENTH FLOOR  
 455 NORTH MAIN STREET  
 WICHITA, KANSAS 67202-1620  
 (316) 268-4501

**BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE**

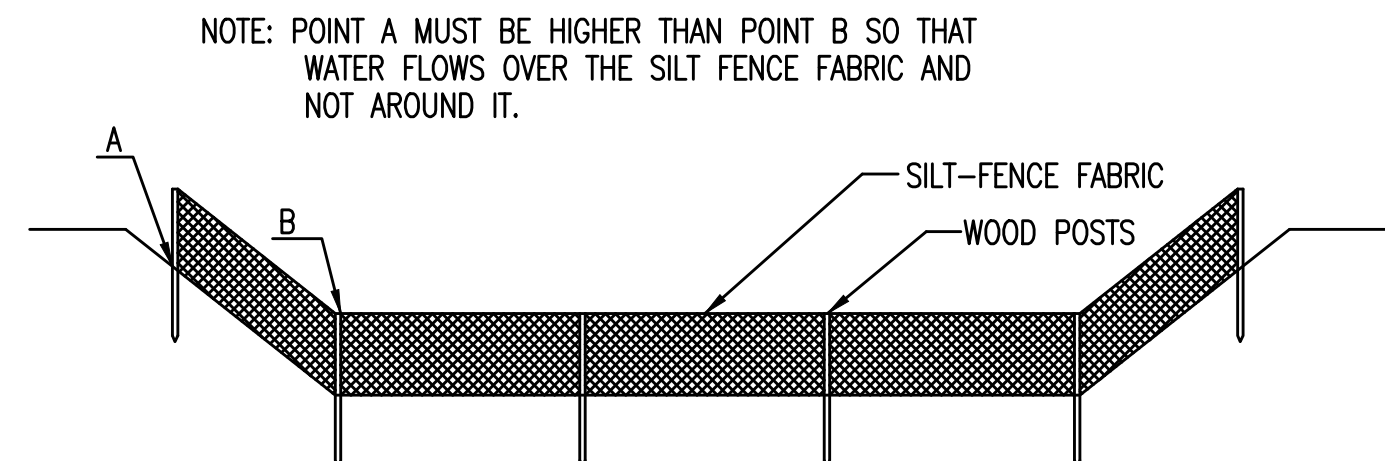
CITY ENGINEER  
**GARY JANZEN, P.E.**

|                |            |         |
|----------------|------------|---------|
| PROJECT NUMBER | OCA NUMBER | DATE    |
|                |            | 08/2012 |

|        |       |
|--------|-------|
| DESIGN | DRAWN |
|        |       |

SHEET  
**30** of **34**

FILE LOCATION: S:\Drawing Files\Land Projects CC 11-17-08\WASA\SouthMain\Facility\DWG\As-Built\As-Built.dwg TAB NAME: SOIL EROSION BMP DETAIL 1 USER: rccorvantes SAVED: 3/17/2015 1:06 PM PLOTTED: 3/17/2015 1:07 PM



ELEVATION  
**SILT FENCE DITCH CHECKS**  
 (STREAM PROTECTION)

**MATERIAL SPECIFICATION:**

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

**PLACEMENT:**

PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK, NOT OVER IT. SILT FENCE DITCH CHECKS OFTEN FAIL WHEN OVERTOPPED. SILT FENCE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE SILT FENCE SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE TOP OF THE LOW POINT OF THE FENCE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK. SILT FENCE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD. SILT FENCE SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.

THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

| DITCH CHECK DITCH GRADE (%) | SPACING CHECK SPACING (FEET) |
|-----------------------------|------------------------------|
| 0.5                         | 200                          |
| 1.0                         | 200                          |
| 2.0                         | 100                          |
| 3.0                         | 65                           |
| 4.0                         | 50                           |
| 5.0                         | 40                           |
| 6.0                         | 30                           |

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS AT LEAST 12" DEEP BY 6" WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE SIDE OF THE TRENCH. PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE EDGE OF THE TRENCH. LINE TWO SIDES OF THE TRENCH WITH THE FABRIC AS SHOWN ON DETAIL. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE ON THE UPSLOPE SIDE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 24". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

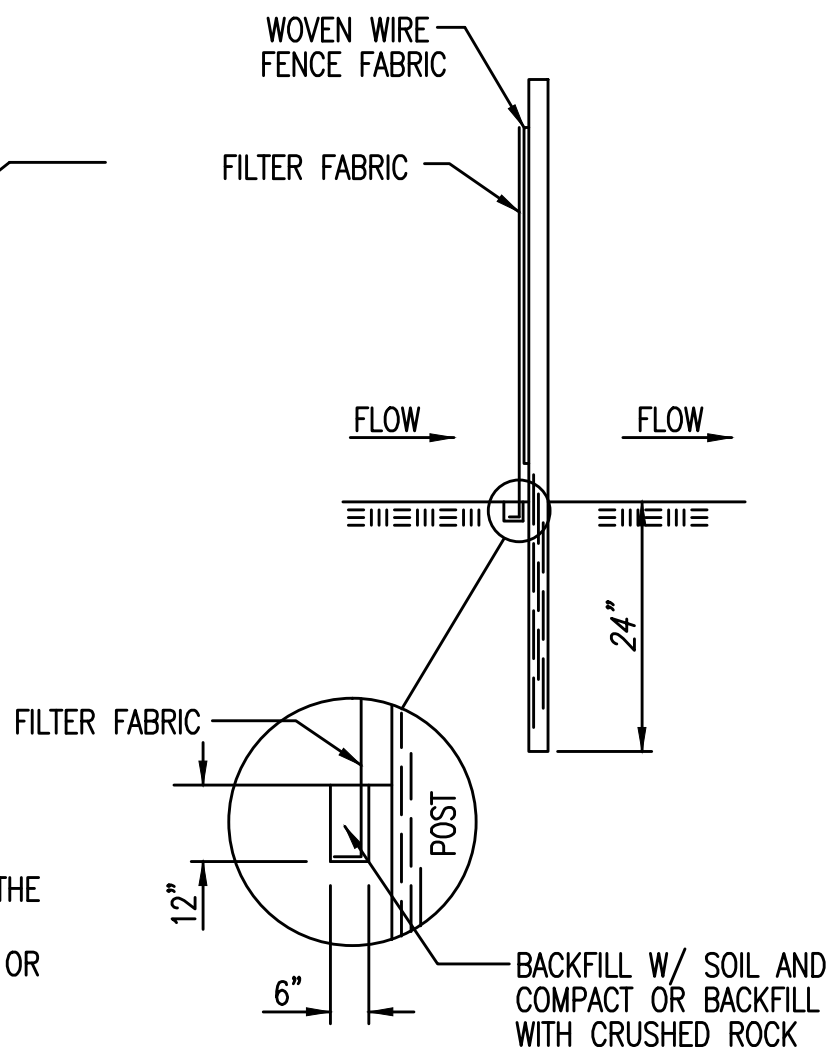
**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK—NOT OVER IT. PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. SILT FENCE INSTALLATIONS QUICKLY DETERIORATE WHEN WATER OVERTOPS THEM. DO NOT PLACE SILT FENCE POSTS ON THE UPSLOPE SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT PLACE A SILT FENCE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW. DO NOT PLACE SILT FENCE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW. FOLLOW PRESCRIBED DITCH CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS. DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE LOW POINT ON THE TOP OF THE FENCE. DO NOT PLACE SILT FENCE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.

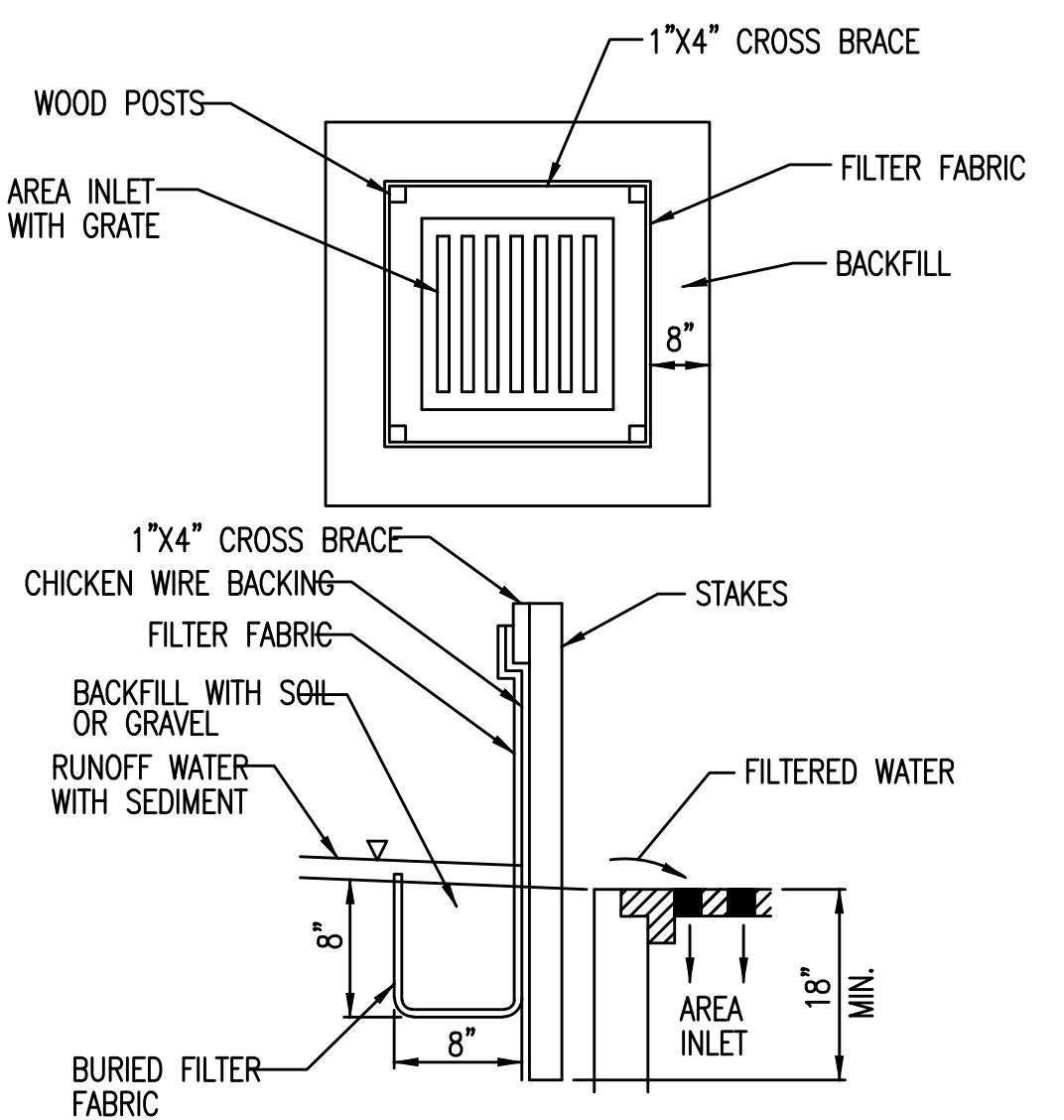
**INSPECTION AND MAINTENANCE:**

SILT FENCE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW AROUND THE DITCH CHECK?
- DOES WATER FLOW UNDER THE DITCH CHECK?
- DOES THE SILT FENCE SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



ANCHOR TRENCH DETAIL



SILT FENCE BARRIERS FOR AREA INLETS  
 (INLET PROTECTION)

**MATERIAL SPECIFICATION:**

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE WIRE OR POLYMERIC MESH BACKING USED TO HELP SUPPORT THE SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. THE MATERIAL USED TO FRAME THE TOPS OF THE POSTS SHOULD BE 1" BY 4" BOARDS. SILT FENCE FABRIC AND SUPPORT BACKING SHOULD BE ATTACHED TO THE WOODEN POSTS AND FRAME WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

**PLACEMENT:**

PLACE A SILT FENCE DROP INLET BARRIER IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. WATER SHOULD FLOW THROUGH SILT FENCE, NOT OVER IT. SILT FENCE BARRIERS FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. WHEN USED AS A BARRIER FOR AREA INLETS, SILT FENCE FABRIC AND POSTS MUST BE SUPPORTED AT THE TOP BY A WOODEN FRAME. WHEN A SILT FENCE BARRIER FOR AREA INLETS IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 8" DEEP BY 8" WIDE. DRIVE POSTS TO A DEPTH OF AT LEAST 18" AROUND THE PERIMETER OF THE AREA INLET. THE DISTANCE BETWEEN POSTS SHOULD BE 4' OR LESS. IF THE DISTANCE BETWEEN TWO ADJACENT CORNER POSTS IS MORE THAN 4', ADD ANOTHER POST(S) BETWEEN THEM. CONNECT THE TOPS OF ALL THE POSTS WITH A WOODEN FRAME MADE OF 1" BY 4" BOARDS. USE NAILS OR SCREWS FOR FASTENING. ATTACH THE WIRE OR POLYMERIC-MESH BACKING TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC LONG ENOUGH TO WRAP AROUND THE PERIMETER OF THE AREA INLET. ADD MORE LENGTH FOR OVERLAPPING THE FABRIC JOINT. PLACE THE EDGE OF THE FABRIC IN THE TRENCH, STARTING AT THE OUTSIDE EDGE OF THE TRENCH. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. ATTACH THE SILT FENCE TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. THE JOINT SHOULD BE OVERLAPPED TO THE NEXT POST.

NOTE: WHEN A SILT FENCE BARRIER FOR AREA INLET IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

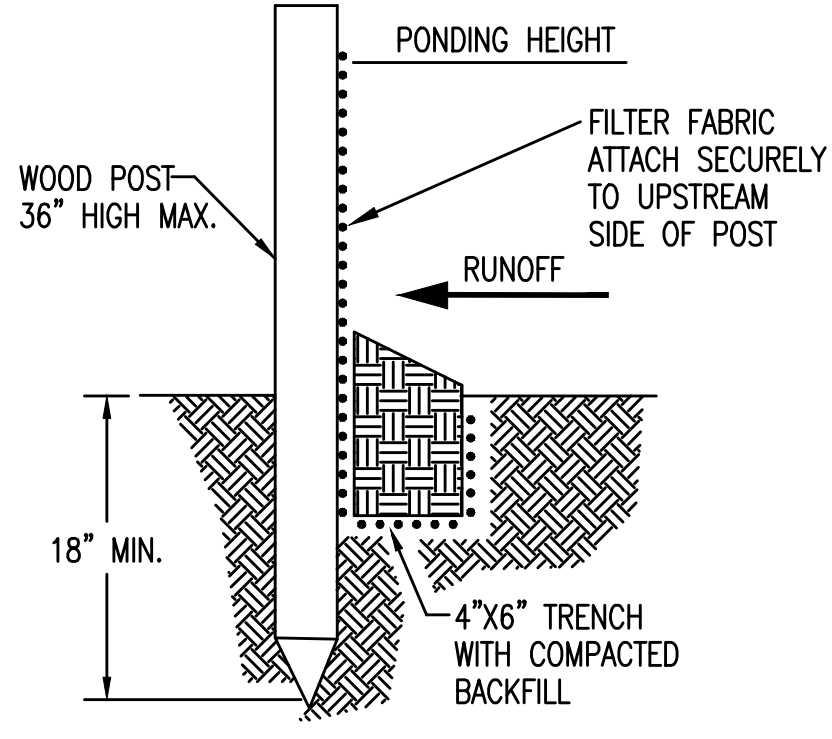
**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

WATER SHOULD FLOW THROUGH A SILT FENCE BARRIER FOR AREA INLET—NOT OVER IT. PLACE A SILT FENCE BARRIER FOR AREA INLET IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. SILT FENCE BARRIER FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. DO NOT PLACE POSTS ON THE OUTSIDE OF THE SILT FENCE BARRIER FOR AREA INLET. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT INSTALL SILT FENCE BARRIER FOR AREA INLETS WITHOUT FRAMING THE TOP OF THE POSTS. THE CORNER POSTS AROUND AREA INLETS ARE STRESSED IN TWO DIRECTIONS WHEREAS A NORMAL SILT FENCE IS ONLY STRESSED IN ONE DIRECTION. THIS ADDED STRESS REQUIRES MORE SUPPORT.

**INSPECTION AND MAINTENANCE:**

SILT FENCE BARRIER FOR AREA INLETS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW UNDER THE SILT FENCE?
- DOES THE SILT FENCE SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



SILT FENCE BARRIERS

**MATERIAL SPECIFICATION:**

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

**PLACEMENT:**

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT. WHEN PRACTICABLE, SILT FENCE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. SILT FENCE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 6" DEEP BY 4" WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE SIDE OF THE TRENCH. PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE EDGE. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT-FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE UPSLOPE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 18". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES. DO NOT PLACE SILT-FENCE POSTS ON THE UPSLOPE SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT PLACE SILT FENCE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT SUFFICIENTLY ANCHORED, IT WILL WASH OUT. SILT FENCE SLOPE BARRIERS MUST BE DUG INTO THE GROUND—SILT FENCE AT GROUND LEVEL DOES NOT WORK BECAUSE WATER WILL FLOW UNDERNEATH.

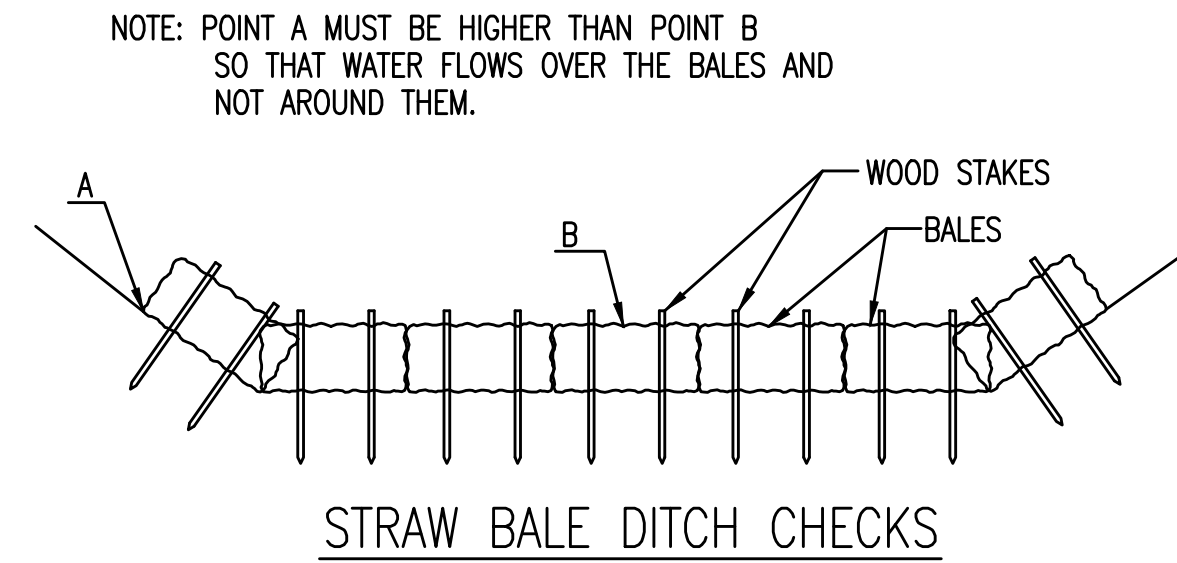
**INSPECTION AND MAINTENANCE:**

SILT FENCE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
- DOES WATER FLOW UNDER THE SLOPE BARRIER?
- HAS THE SILT FENCES SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

|  |  |                     |                                    |
|--|--|---------------------|------------------------------------|
| <br><b>CITY OF WICHITA</b><br>PUBLIC WORKS & UTILITIES<br>ENGINEERING DIVISION | <b>SILT FENCE DITCH CHECK AND BARRIER DETAILS</b>  |                     |                                    |
|  | CITY ENGINEER<br><b>GARY JANZEN, P.E.</b>  |                     |                                    |
|  | PROJECT NUMBER<br>-- --  | OCA NUMBER<br>-- -- | DATE<br><b>11/2010</b>             |
|  | CITY ENGINEER'S OFFICE<br>CITY HALL - SEVENTH FLOOR<br>455 NORTH MAIN STREET<br>WICHITA, KANSAS 67202-1620<br>(316) 268-4501 |                     | DESIGN<br>DRAWN<br><b>31 of 34</b> |

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**MATERIAL SPECIFICATION:**

BALE DITCH CHECKS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.  
 OPTIONAL: THE DOWNSTREAM SCOUR APRON SHOULD BE CONSTRUCTED OF A DOUBLE-NETTED STRAW EROSION-CONTROL BLANKET AT LEAST 6' WIDE.  
 OPTIONAL: THE METAL LANDSCAPE STAPLES USED TO ANCHOR THE EROSION-CONTROL BLANKET SHOULD BE AT LEAST 8" LONG.

**PLACEMENT:**

BALE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE DITCH CHECK SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK.  
 STRAW BALE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD.  
 BALES SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.  
 THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

| DITCH CHECK SPACING (%) | CHECK SPACING (FEET) |
|-------------------------|----------------------|
| 0.5                     | 200                  |
| 1.0                     | 200                  |
| 2.0                     | 100                  |
| 3.0                     | 65                   |
| 4.0                     | 50                   |
| 5.0                     | 40                   |
| 6.0                     | 30                   |

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH-IT WILL BE USED LATER.  
 OPTIONAL: ON THE DOWNSTREAM SIDE OF THE TRENCH, ROLL OUT A LENGTH OF EROSION-CONTROL BLANKET (SCOUR APRON) EQUAL TO THE LENGTH OF THE TRENCH. PLACE THE UPSTREAM EDGE OF THE EROSION-CONTROL BLANKET ALONG THE BOTTOM UPSTREAM EDGE OF THE TRENCH. THE EROSION CONTROL BLANKET SHOULD BE ANCHORED IN THE TRENCH WITH ONE ROW OF 8" LANDSCAPE STAPLES PLACED ON 18" CENTERS. THE REMAINDER OF THE EROSION-CONTROL BLANKET (THE PORTION THAT IS NOT LYING IN THE TRENCH) WILL SERVE AS THE DOWNSTREAM SCOUR APRON. THIS SECTION OF THE BLANKET SHOULD BE ANCHORED TO THE GROUND WITH 8" LANDSCAPE STAPLES PLACED AROUND THE PERIMETER OF THE BLANKET ON 18" CENTERS. THE REMAINDER OF THE BLANKET SHOULD BE ANCHORED USING TWO EVENLY SPACED ROWS OF 8" LANDSCAPE STAPLES ON 18" CENTERS PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH.  
 PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND.  
 ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSTREAM SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP AND EXTEND UPSTREAM NO MORE THAN 24".

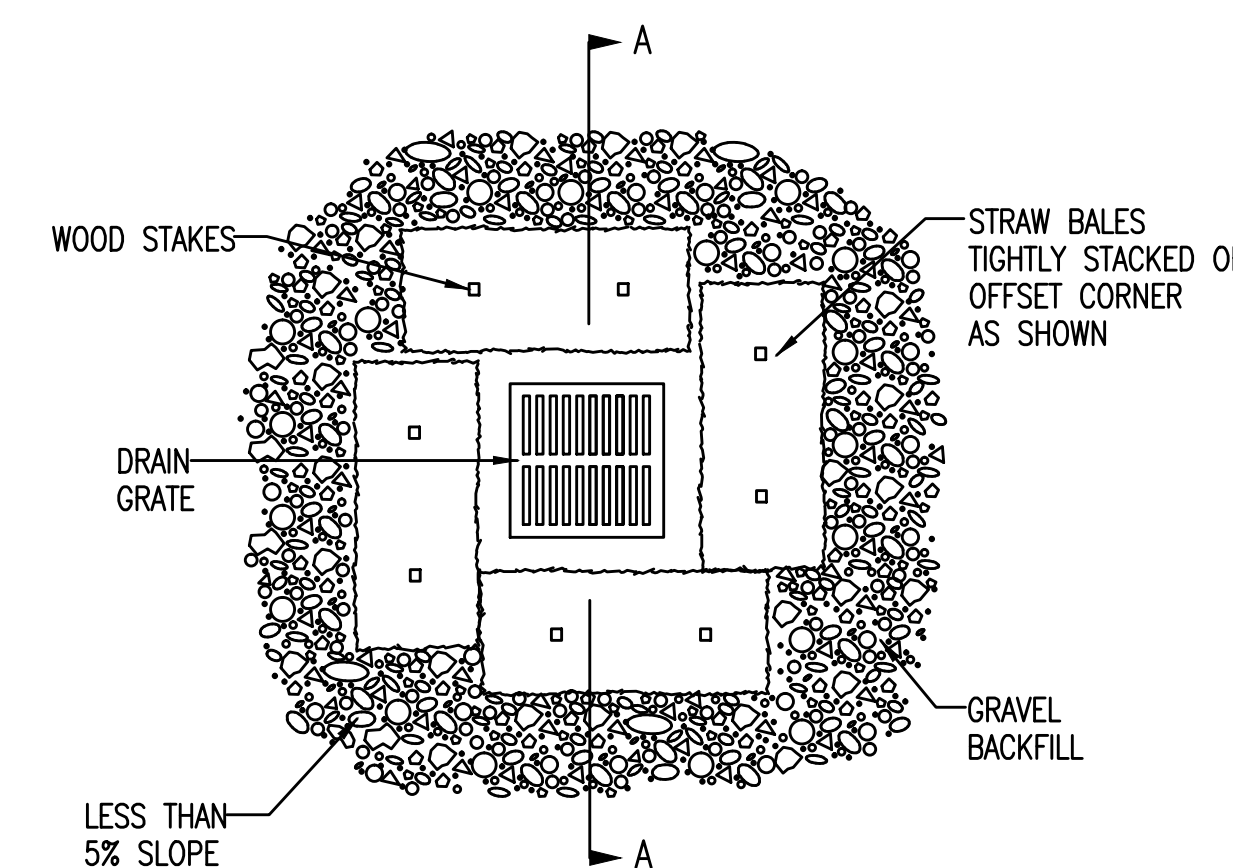
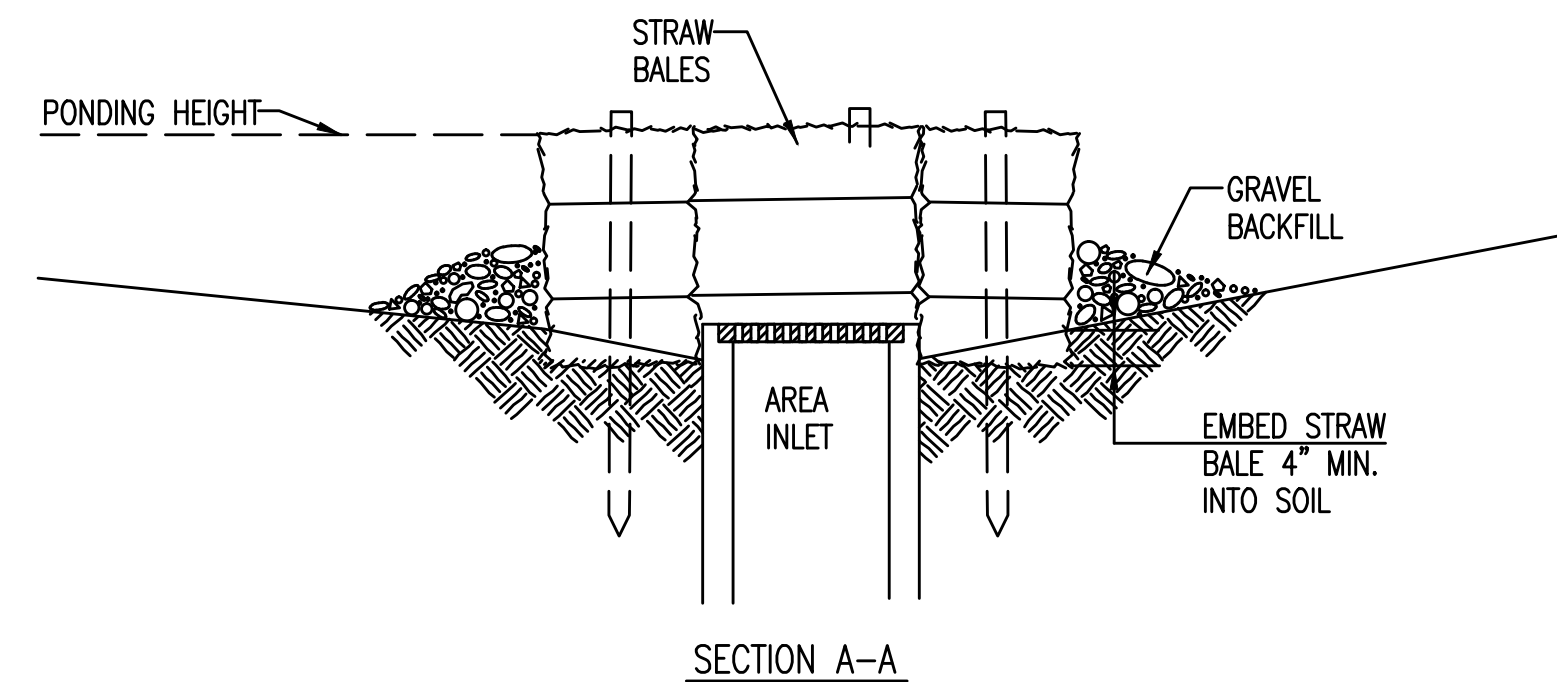
**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

DO NOT PLACE A BALE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW.  
 DO NOT PLACE BALE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW.  
 FOLLOW PRESCRIBED DITCH-CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS.  
 DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE.  
 DO NOT PLACE BALE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.  
 BALE DITCH CHECKS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE CHECK.

**INSPECTION AND MAINTENANCE:**

BALE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW AROUND THE DITCH CHECK?
- DOES WATER FLOW UNDER THE DITCH CHECK?
- DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
- ARE ANY BALES AND/OR SCOUR APRONS (OPTIONAL) DISLODGED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



**STRAW BALE BARRIERS FOR AREA INLETS (INLET PROTECTION)**

**MATERIAL SPECIFICATION:**

BALE AREA INLET BARRIERS SHOULD BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.  
 TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

**PLACEMENT:**

BALE AREA INLET BARRIERS SHOULD BE PLACED DIRECTLY AROUND THE PERIMETER OF A DROP INLET. WHEN A BALE AREA INLET BARRIER IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRAMATICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 4" DEEP BY A BALE'S WIDTH WIDE.  
 PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. SOME BALES MAY NEED TO BE SHORTENED TO FIT INTO THE TRENCH AROUND THE AREA INLET. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS.  
 STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND.  
 ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE RECEIVING SIDE OF THE BARRIER AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.  
 NOTE: WHEN A BALE AREA INLET BARRIER IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

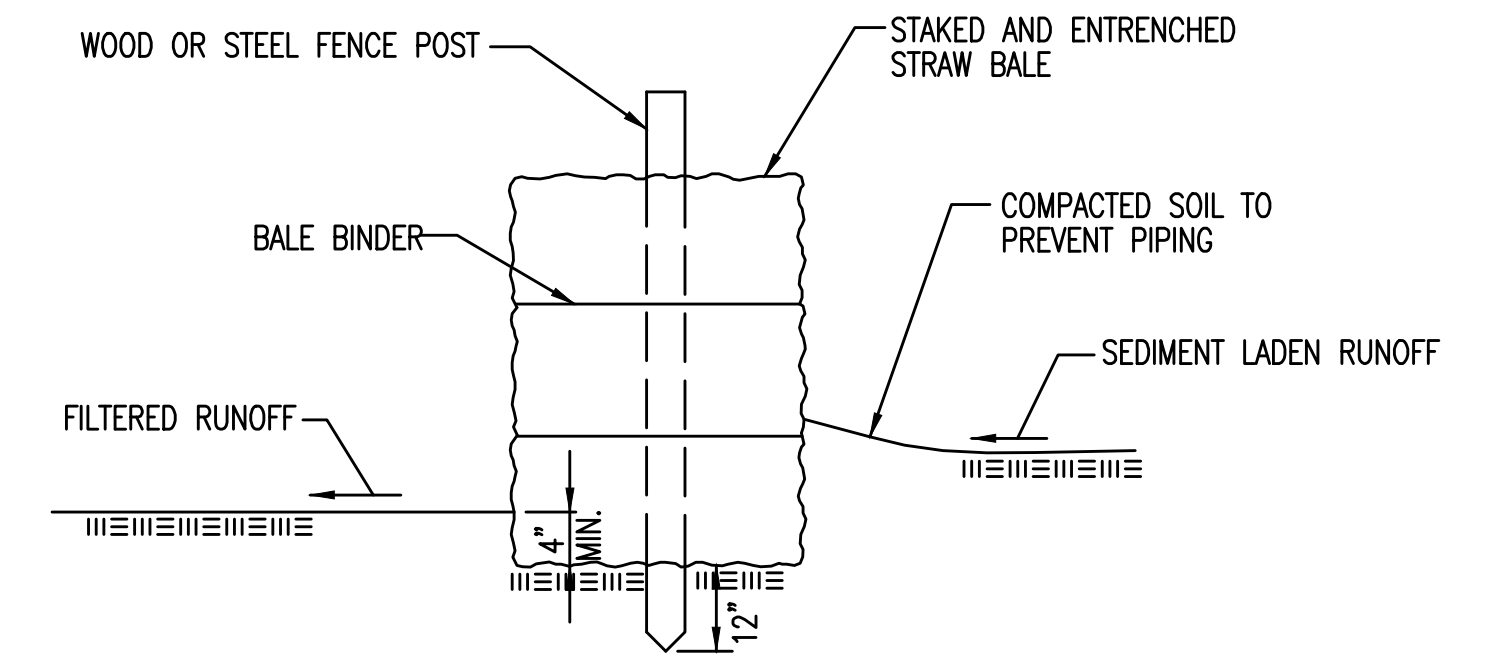
**LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:**

BALES SHOULD BE PLACED DIRECTLY AGAINST THE PERIMETER OF THE AREA INLET. THIS ALLOWS OVERTOPPING WATER TO FLOW DIRECTLY INTO THE INLET INSTEAD OF ONTO NEARBY SOIL CAUSING SCOUR. BALE AREA INLET BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

**INSPECTION AND MAINTENANCE:**

BALE AREA INLET BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW UNDER THE AREA INLET BARRIER?
- DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
- ARE ANY BALES DISLODGED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



**STRAW BALE BARRIERS**

**MATERIAL SPECIFICATION:**

BALE SLOPE BARRIERS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.  
 TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

**PLACEMENT:**

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT.  
 WHEN PRACTICABLE, BALE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW.  
 BALE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE.  
 PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND.  
 ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSLOPE SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.

**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

WHEN PRACTICAL, DO NOT PLACE BALE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. CONCENTRATED FLOW OVER A SLOPE BARRIER CREATES A SCOUR HOLE ON THE DOWNSLOPE SIDE OF THE BARRIER. THE SCOUR HOLE EVENTUALLY UNDERMINES THE BALES AND THE BARRIER FAILS.  
 DO NOT PLACE BALE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.  
 BALE SLOPE BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

**INSPECTION AND MAINTENANCE:**

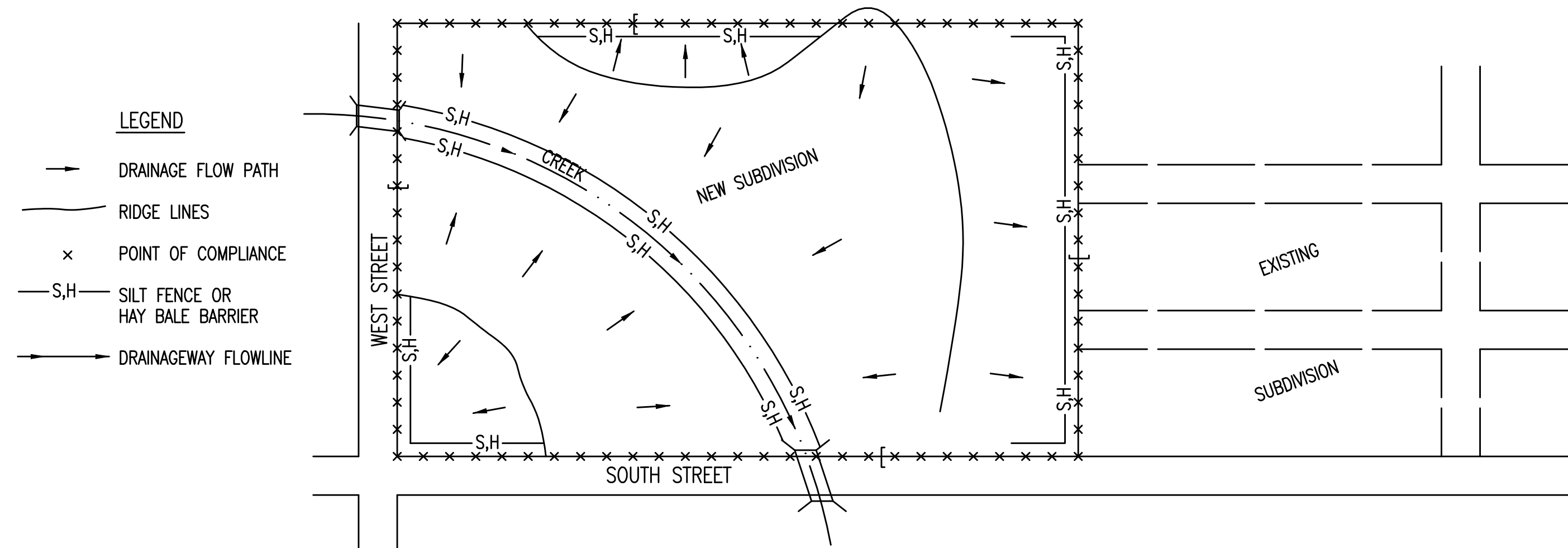
BALE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
- DOES WATER FLOW UNDER THE SLOPE BARRIER?
- DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
- ARE ANY BALES DISLODGED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

|  |  |                     |                                    |
|--|--|---------------------|------------------------------------|
| <br><b>CITY OF WICHITA</b><br>PUBLIC WORKS & UTILITIES<br>ENGINEERING DIVISION | <b>STRAW BALE DITCH CHECK AND BARRIER DETAILS</b>  |                     |                                    |
|  | CITY ENGINEER<br><b>GARY JANZEN, P.E.</b>  |                     |                                    |
|  | PROJECT NUMBER<br>-- --  | OCA NUMBER<br>-- -- | DATE<br><b>11/2010</b>             |
|  | CITY ENGINEER'S OFFICE<br>CITY HALL - SEVENTH FLOOR<br>455 NORTH MAIN STREET<br>WICHITA, KANSAS 67202-1620<br>(316) 268-4501 |                     | DESIGN<br>DRAWN<br><b>32 of 34</b> |

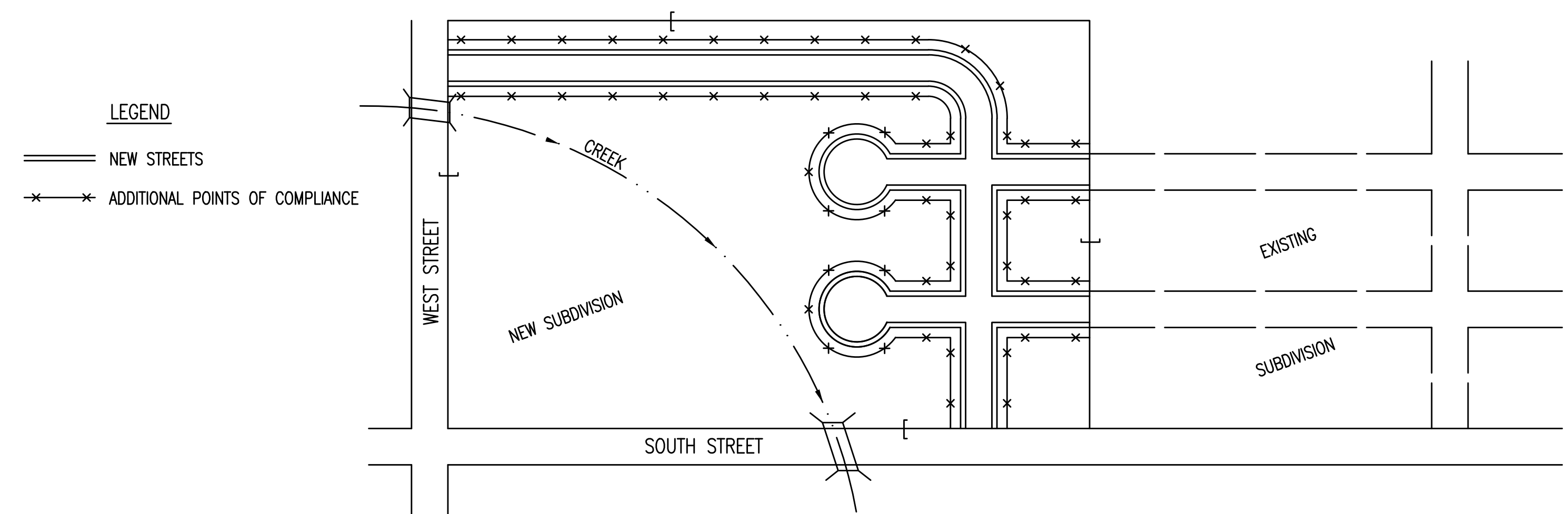
FILE LOCATION: s:\Drawing Files\Lead Projects CC 11-17-08\WASA\SouthMain\Facility\DWG\As-Built\Soil Erosion Details As-Built.dwg TAB NAME: SOIL EROSION BMP DETAIL 3 USER: rscervantes SAVED: 3/17/2015 1:06 PM PLOTTED: 3/17/2015 1:07 PM

PHASE 1 - INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



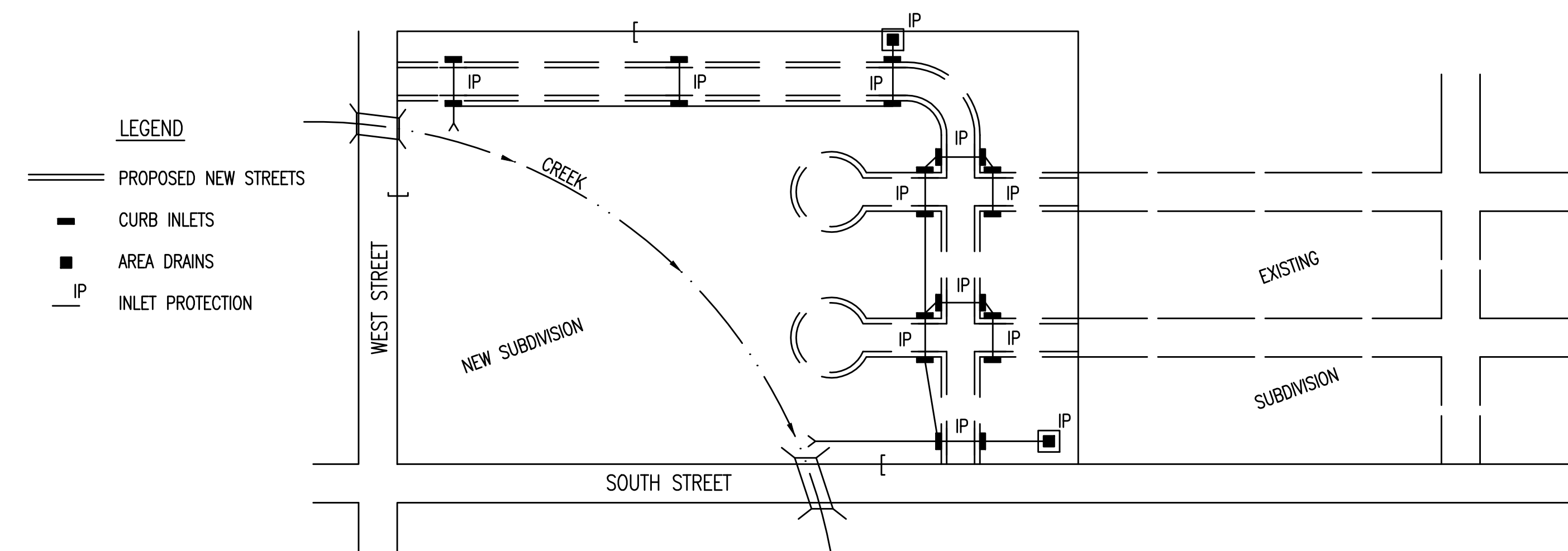
- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
- HAY BALES OR SILT FENCE MUST BE CONSTRUCTED ALONG THE PROPERTY LINE WHERE ON SITE WATER CAN DRAIN OFF THE PROPERTY. THESE EROSION CONTROL DEVICES WILL ALSO BE INSTALLED ALONG ANY DRAINAGE DITCH OR LAKE THAT CAN DISCHARGE.
- SHOULD SILT OR SEDIMENT ENTER THE DITCHES OR STREETS ON THE ADJACENT BOUNDARY STREETS, APPROPRIATE EROSION CONTROL DEVICES WILL BE PLACED WITHIN THE SUBDIVISION TO PREVENT THIS.
- ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED WITHIN 48 HOURS OR BY FRIDAY AT 6:00 PM, WHICHEVER IS EARLIER.
- CONTRACTORS WORKING WITHIN THE SITE WILL NOT BE REQUIRED TO USE INDIVIDUAL EROSION CONTROL DEVICES AS LONG AS THOSE SPECIFIED ABOVE ARE IN PLACE AND EFFECTIVE. CONTRACTORS WORKING ON THE BOUNDARY LINE STREETS OR ON ADJACENT PROPERTIES TO EXTEND UTILITIES ARE EXPECTED TO USE EROSION CONTROL DEVICES AT THEIR WORK LOCATIONS, AS NEEDED.
- UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
- IF THE INITIAL EARTH WORK AND UTILITIES ARE DONE AS PART OF A PUBLIC IMPROVEMENT PROJECT, THESE EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS SPECIFIED IN THE INDIVIDUAL PROJECT CONTRACTS. THE CONTRACTOR WILL MAINTAIN THE DEVICES UNTIL COMPLETION OF THE CONTRACT, AT WHICH TIME THE DEVELOPER WILL ASSUME MAINTENANCE RESPONSIBILITIES. IF THESE CONTRACTS ARE NOT PUBLIC IMPROVEMENT PROJECTS, THE DEVELOPER WILL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THESE DEVICES.
- WITHIN 14 DAYS OF COMPLETION OF EARTHWORK ACTIVITIES IN ANY GIVEN AREA, THAT AREA SHALL BE TEMPORARILY OR PERMANENTLY SEEDED AND MULCHED.

PHASE 3 - STREET CONSTRUCTION



- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL EROSION CONTROL DEVICES INSTALLED DURING PHASE 1 AND 2 MUST STILL BE MAINTAINED. THE POINT OF COMPLIANCE NOW SHIFTS TO THE BACK OF CURB ALONG EACH STREET.
- CURB OPENING INLET PROTECTION:
  - SUMP AREAS - INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
  - NON-SUMP LOCATIONS - PROVIDE INLET PROTECTION AS SOON AS BASE COURSE ASPHALT IS INSTALLED, BEFORE THE SURFACE COURSE LIFT.
- EROSION CONTROL DEVICES WILL BE REQUIRED BACK OF CURB WHEREVER WATER CAN FLOW OVER THE CURB AND THE CURB HAS BEEN BACKFILLED TO WITHIN 3" OR LESS OF THE TOP OF CURB (SEE CURB BACKFILL DETAIL). FOR CURBS NOT YET ENTIRELY BACKFILLED (3" OR MORE BELOW TOP OF CURB), ADDITIONAL DEVICES WILL BE REQUIRED AT POINTS WHERE WATER BREAKS OVER CURB WHICH COULD RESULT IN THE PLACEMENT OF SEDIMENT IN THE GUTTER.
- SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
- THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLEMENTED WITH HAY BALE OR SILT FENCE EROSION CONTROL DEVICES AT LOCATIONS WHERE CONCENTRATED FLOW RESULTS IN SEDIMENT BEING CARRIED OVER THE EXCELSIOR MATS.
- THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
- THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB EROSION CONTROL DEVICES IN FRONT OF THEIR LOTS, UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOD.

PHASE 2 - INSTALLATION OF STORM SEWER

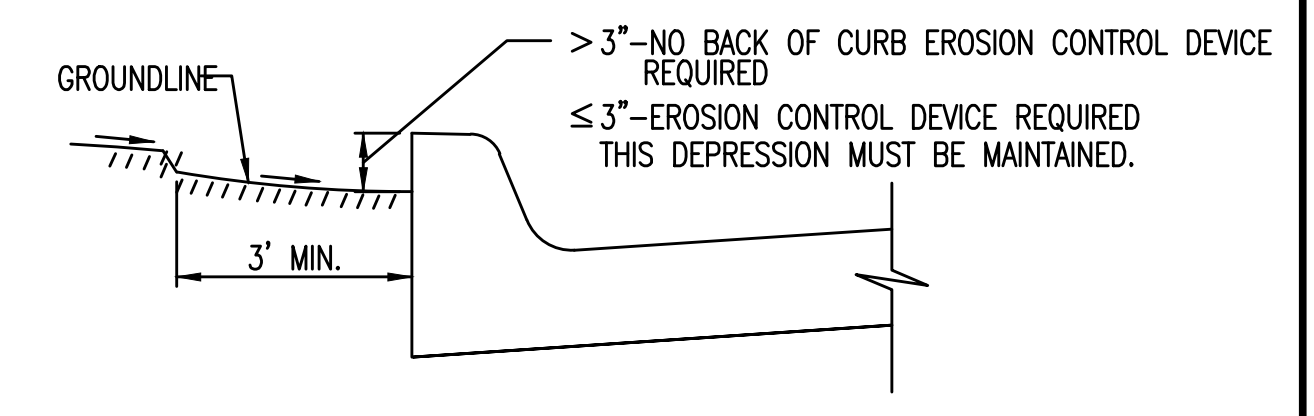


- DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
- AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
- AREA DRAINS - AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAY BALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
- CURB OPENING INLETS - AS SOON AS WATER CAN FLOW INTO THESE DRAINS, INLET PROTECTION DEVICES MUST BE INSTALLED. IF WATER CANNOT FLOW INTO CURB INLETS UNTIL STREET CONSTRUCTION IS COMPLETE, THEN STREET CONTRACTOR WILL INSTALL INLET PROTECTION. SEE PHASE 3 - STREET CONSTRUCTION.
- THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE DEVICES.
- THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE EROSION CONTROL DEVICES ONCE INSTALLED.
- ALL DISTURBED GROUND WILL BE FINAL GRADED AND TEMPORARILY OR PERMANENTLY SEEDED WITHIN 14 DAYS IF COMPLETION OF WORK IN ANY GIVEN PART OF THE SUBDIVISION.
- ONCE ALL DISTURBED GROUND DRAINING TO AN INLET HAS BEEN RESTABILIZED WITH GRASS OR SOD, THE SUBDIVISION DEVELOPER WILL BE RESPONSIBLE FOR PERMANENTLY REMOVING THE INLET PROTECTION.

GENERAL NOTES

- THE INTENT OF ALL EROSION CONTROL DEVICES IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, LAKES, STREETS OR ANY OTHER OTHER DRAINAGE FEATURE.
- THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
- EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS TO REMAIN EFFECTIVE. MAINTENANCE SHALL BE AS INDICATED ON SOIL EROSION BMP'S DETAIL SHEETS.
- PERSONS DESTROYING EROSION CONTROL DEVICES SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT DEVICES.
- THE DEVELOPMENT OF ANY SUBDIVISION THAT DISTURBS 1 ACRE OR MORE WILL REQUIRE A FEDERAL/STATE NPDES STORMWATER PERMIT. THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. EROSION CONTROL DEVICES ARE REQUIRED. THE DETAILS SHOWN ON THIS SHEET ARE THE MINIMUM STANDARDS TO BE SHOWN ON POLLUTION PREVENTION PLANS.
- FOR SUBDIVISIONS SMALLER THAN 1 ACRE, SOIL EROSION DEVICES ARE REQUIRED. ALSO, DEVELOPERS AND CONTRACTORS ARE ENCOURAGED TO DEVELOP POLLUTION PREVENTION PLANS FOR EACH PROJECT PRIOR TO CONSTRUCTION.
- FAILURE TO USE AND MAINTAIN SOIL EROSION DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE SUBDIVISION DEVELOPER AND CONTRACTORS TO THE PENALTIES PROVIDED THEREIN.
- THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE DEVICES OTHER THAN THAT SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED SO LONG AS THEY ARE EFFECTIVE AND MAINTAINED.
- A STABILIZED EARTH SURFACE IS DEFINED AS ONE THAT IS HARD SURFACED WITH CONCRETE, ASPHALT, OR THE LIKE, OR ONE ON WHICH 70% OF THE GRASS HAS GERMINATED ON THE ENTIRE SURFACE.

SEE DETAIL SHEET FOR BACK OF CURB PROTECTION DETAIL



CURB BACKFILL DETAIL (STREET CONSTRUCTION ONLY)

THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.



**SUBDIVISION DEVELOPMENT PROCESS**

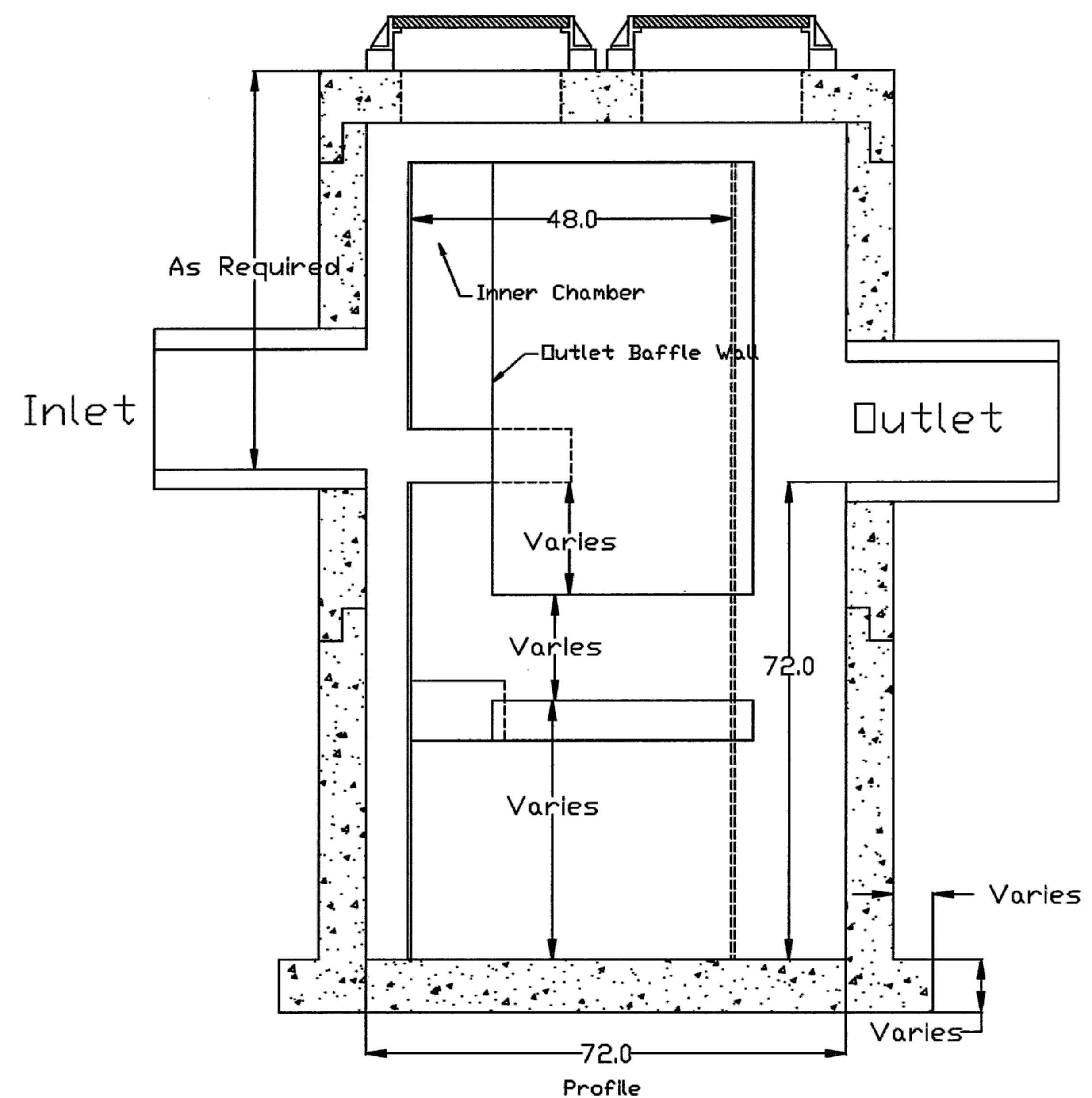
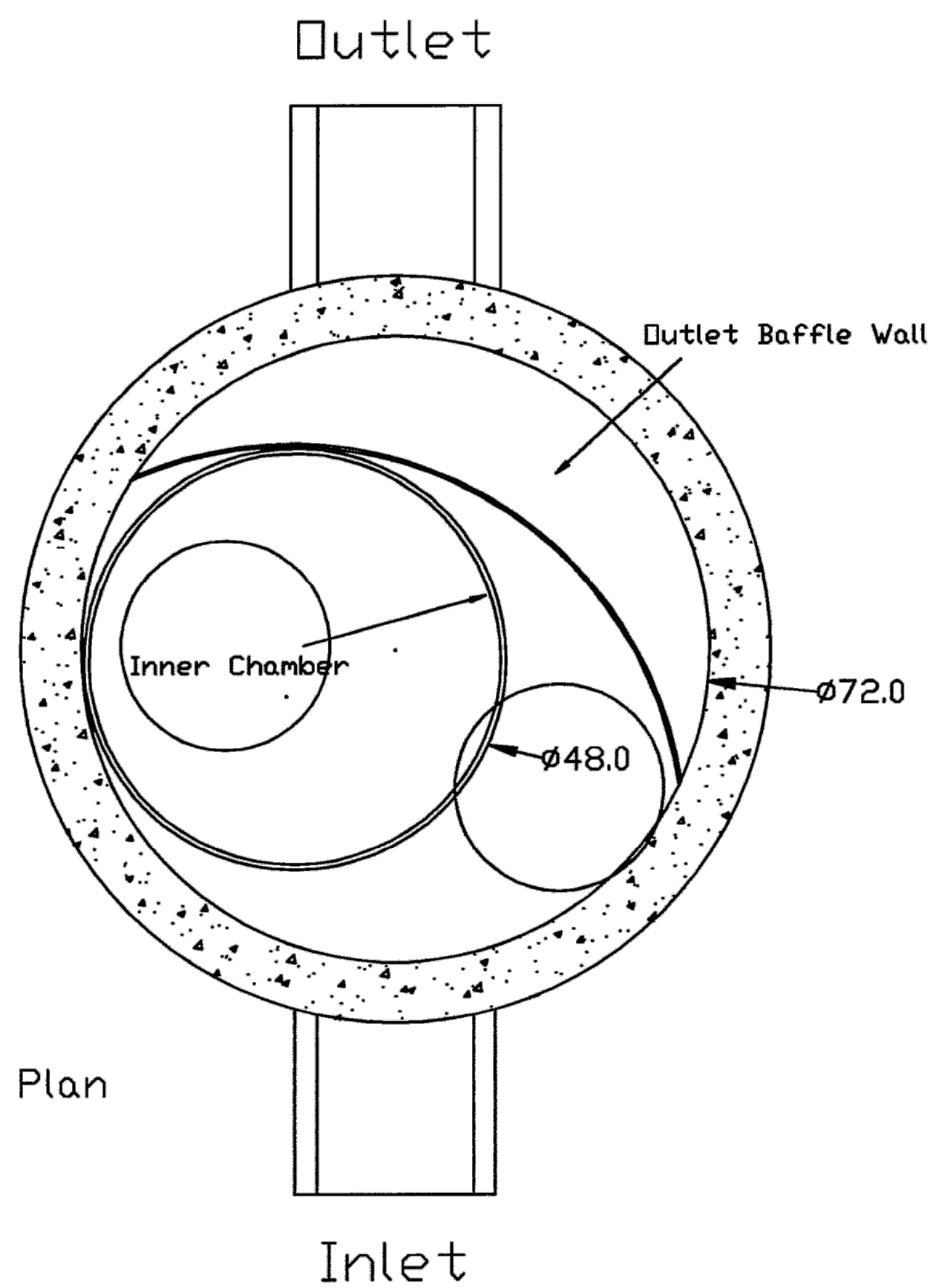
CITY ENGINEER  
**GARY JANZEN, P.E.**

|                |            |         |
|----------------|------------|---------|
| PROJECT NUMBER | OCA NUMBER | DATE    |
|                |            | 08/2012 |

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| CITY ENGINEER'S OFFICE   | DESIGN | DRAWN |
| CITY HALL - SEVENTH FLOOR<br>455 NORTH MAIN STREET<br>WICHITA, KANSAS 67202-1620<br>(316) 268-4501 |        |       |

SHEET  
**33** of **34**

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U.S. Patent No. 6,951,619

Dimensions in inches

Permanent Pool Volume = 1250 US gallons

The Hydroguard must be cleaned after the construction period

if it is used as a sediment and erosion control measure

The Hydroguard should be inspected once per year for stabilized sites

Inspection will determine the maintenance frequency (annual maintenance or once every two years typical for stabilized sites)

Sites with unstable conditions (exposed soil or materials storage) will require more frequent inspection and maintenance

Hydroworks, LLC

50 S. 21st St., Kenilworth, NJ 07033

Phone: 888-290-7900 Fax: 888-783-7271

Web: www.hydroworks.com

Hydroworks HG6 (72"φ)

PROJECT:

LOCATION:

REVISION DATE: 02/10/2011



| REV. | DESCRIPTION | DATE |
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AS BUILT PLANS:  
CONTRACTOR: WILDCAT CONSTRUCTION  
INSPECTOR: RANDY VOTH, C.E.D.  
PDF BY: C.C. 3-18-2015

SOUTH MAINTENANCE  
YARD IMPROVEMENTS  
& PARKING LOT  
RECONSTRUCTION

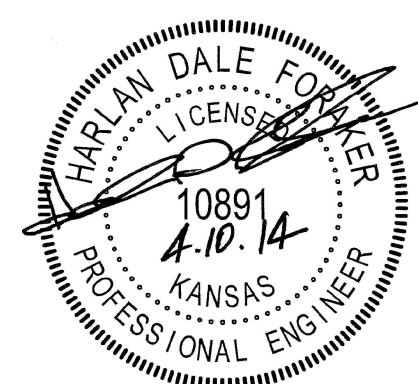
WICHITA  
MID-CONTINENT  
AIRPORT

SEDGWICK COUNTY, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669



BID DRAWINGS

PROJECT NO.: 20122036  
ISSUE DATE: APRIL 2014  
CONTACT: H FORAKER  
DRAWN BY: CC, CKW | CHECKED BY: HDF

**HYDRODYNAMIC  
SEPARATOR DETAIL**